Well Dressed Woman

Helen Gilbert Ecob

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PREFACE.

IGNORANCE is the mother of indifference. This explains the apathy of women on the subject of dress. It is true that wholesale condemnation of the follies of fashionable dress has abounded, yet scientific investigations concerning its evils are comparatively recent. The results of these investigations are scattered through various books and journals inaccessible to the general reader, and are expressed in technical language incomprehensible to the non-professional mind.

The present interest in rational dress is many-sided. To overcome physical frailty through obedience to the laws of our being; to return to true standards of beauty in the female form; to cultivate artistic taste and feeling in the structure of dress, and to free women from the degrading influence of a social environment which binds them

to self-adornment are the aims which animate this movement.

It is evident that the well-dressed woman must observe the laws of dress. These laws relate to hygiene, art, and morals. They form a trinity mutually dependent upon each other. To observe the laws of art in dress and ignore the laws of health is impossible. To observe the laws of art and health and be disloyal to the morals of dress is equally impossible. The well-dressed woman must be a harmony of the laws of dress, as a painting is a harmony of the laws of drawing and color. Any study of dress, therefore, is defective which does not clearly define the laws of health, beauty, and morals.

In preparing this volume it has not been my purpose to express an individual conviction on the subjects under consideration so much as to bring together the opinions of those who are recognized as authority in these various departments. I have simply "acted the part of a sieve," collecting from diverse sources the best information to be obtained, and presenting it in a direct, simple manner. This manual is for the help of busy women who have neither time nor opportunity to study the laws of dress for themselves. In this spirit, and with no

interest in advocating particular systems, I have directed those who may desire such information to methods by which rational clothing may be obtained.

The intense interest which is beginning to manifest itself on the subject of dress marks an epoch in the social history of woman. It indicates that she is ready to put away childish things and to be governed by reason and conscience. The movement is fraught with promise to the coming generations and to civilization. To help in anywise the struggling minds and hearts of my countrywomen toward a true emancipation of body, as well as of intellect and soul, is the purpose of this volume.

HELEN GILBERT ECOB.

ALBANY, N. Y.

PREFACE TO SECOND EDITION.

THE call for another edition of "The Well-dressed Woman" is gratifying because it shows that the public is beginning to think seriously on a subject which lies very close to the welfare of society. The volume has served the purpose for which it was sent forth. It has arrested thought. We hear of various clubs which have taken up the study of the manual. It is recommended as a text-book in schools for girls. Miss Frances Willard and Lady Henry Somerset "especially commend it to local Unions that they may read in the 'Regular Meetings." When the subject of woman's dress is thus made a careful study we may be sure that the beginning of its reformation is at hand. No true progress can be made while we present it as a fad to be taken up for the sake of artistic effect, but with intelligent thought we may hope for the triumph of reason over

conventional ideas. As women appreciate the noble purpose of life and the possibilities which are opening to them, they will scorn a dress which cripples the body and exhausts its powers of endurance.

Pioneer work must always pass through the crucible of criticism and persecution. This is right. We must prove all things before we can hold fast that which is good. The reformation of woman's dress is yet in the infantile stage. Our efforts to reconstruct it are largely experimental. We are patiently groping our way toward better things. Yet the reform has earned for itself the right to a respectful hearing. When the most intelligent and noble women of this country are studying the problem because it bears upon the higher and truer development of the mind and soul, it is time that unthinking ridicule and hostile judgment cease. We ask this earnest and fair-minded consideration in behalf of the movement looking to a suitable costume for exercise and work which is now commanding general attention. It is obvious that woman's dress is not suited to the needs of a two-legged animal, as regards locomotion, cleanliness, or carrying power. Under the pressure of public opinion woman, "the weaker vessel," is compelled to do her work under exhausting conditions which men of powerful phy-

sique would not tolerate. She asks, at length, for a costume which will allow the free and healthful use of the body in labor and exercise. A multitude of women, many of whom occupy places of honor in the social and intellectual world, join in this appeal for freedom and common-sense in dress. This thing is not done in a corner. With this volume we present several costumes which have been suggested as a basis for such a dress. These designs are tentative. Earnest women are studying and praying over the elucidation of the problem. If anything better can be devised, the way will surely be made plain.

With this edition we present also a number of designs of costumes suitable for different occasions. The reproductions from the works of good masters show how the eye may be educated by the study of Art. We have no wish to cater to the demand for the beautiful with which the public requires that this reform be sugar-coated. This is to assume that conventional dress is beautiful, an assumption which every fashion-plate steadily denies. In the illustrations presented we have endeavored to carry the mind back to the laws of health, art, and morals, and these must issue in the beautiful. We seek the beautiful because it is the good and the true, but

not as a bait to attract attention. We value the character of woman too highly to believe that the reform can be made successful only as we appeal to her personal vanity. If women cannot be reached through the moral sense, the outlook is dark and hopeless. Only Reason and Conscience will rescue our womanhood from perverted taste and vicious servility to the Paris fashion-monger.

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THE WELL-DRESSED WOMAN.

CHAPTER I.

NORMAL WOMAN.

"So mayest thou live, till like ripe fruit thou drop
Into thy mother's lap; or be with ease gathered,
Not harshly plucked: for death mature."—*Milton.*

"The ideal life, the life of full completions, haunts us all. We feel the thing we ought to be beating beneath the thing we are."—*Phillips Brooks.*

STUDENTS of social science are carefully studying the conditions which lead to race elevation and race degeneracy. They observe that "in nations which have ceased to be the earliest signs of decay were those that betoken a loss of physical vigor." Health, then, is not only a matter of individual comfort, but a condition indispensable to national prosperity. In a still higher sense, health is closely

involved in ethical problems. Hygienic living is moral living. This is a fact abundantly recognized in the science of morals.

The complaint of physical deterioration is an old story. It is the lamentation of ancient as well as modern civilization. Gross evils which lead to it have always been more or less under the restraint of law, yet little systematic effort has been made to restore the lost vigor. We live in our ideals, and until the ideal of health as the birthright of the human race is fully established, nothing radical will be done toward a physical reformation.

Whatever theory of creation we may hold, we must believe that in the mind of the Creator was a pure and perfect ideal. Visions of the life of full completions have always haunted the human heart, filling us with blind longings for the ideal strength and beauty.

Our earliest health records are found in the book of Genesis. The age of the patriarchs is represented as one of strength and longevity. There were giants in those days. Death came, not as the end of violent or lingering disease, but as the consummation of a well-rounded process of nature. They "fell on sleep" and were "gathered to their fathers."

Whether we accept the Bible narrative verbally or pictorially, we may draw the conclusion that threescore and ten is not the normal period for human existence. It is quite remarkable that the latest researches of physiologists coincide with the Mosaic statements as to the average duration of life. These calculations are based on the duration of life in animals, which is five times the period necessary for reaching mature development. This rule applied to human life, and allowing the period of adolescence to be twenty years, would make the natural life of man one hundred years. This theory is accredited by the history of primitive people whose normal condition is one of muscular vigor. "Disease is wholly abnormal, and premature death only the consequence of wounds or protracted famine."

Much scepticism exists among those who look at the subject superficially as to the "hygienic savages, and their immunity from disease." We see them, not as the children of nature, but with the vices of civilization added to the vices of savagery. The testimony from those whose observation has been most careful establishes the law that simplicity and morality of life bring exemption from the diseases of the flesh. This is true of the American

Indians. They had, when discovered by the whites, a religion crude but operative. The Jesuit Fathers, whose intercourse with them was extensive, assert that "they were wholly free from many of the most annoying and painful and lingering maladies visited upon civilized men." Other authorities say: "One does not see among them the deformed from birth; they are not subject to gout or gravel, to apoplexy or sudden death; and perhaps they may not have knowledge of the small-pox, the scurvy, the measles, and most of the other epidemic diseases, except through intercourse with Europeans." Scrofula and consumption are indigenous to the red race, but modern diseases are another item in the long account between the Indian and his pale neighbor.

Emerson, gathering his information from reliable history, thus alludes to the American Indians: "Their physical powers, as our fathers found them, and before yet the English alcohol had proved more fatal to them than the English sword, astonished the white men. Their sight was so excellent that, standing on the sea-shore, they often told of the coming of a ship at sea sooner by one hour than any Englishman that stood by on purpose to look out. Roger Williams affirms that he has known them to run between eighty and a hundred

miles in a summer day and back again within two days. A little pounded parched corn or hoe-cake sufficed them on the march. To his bodily perfection the wild man added some noble traits of character."

It is said of a Bengalese tribe, the Oswals of Marwar: "While cholera rages on all sides of them, not one has ever taken the disease, much less succumbed to it; and they attribute their immunity to their sanitary rules. According to the precepts of their religion, they never touch animal food or spirituous liquors; they dine early, and sup on milk and fruit."

Mr. W. T. Hornaday writes concerning the Dyaks of Borneo, who, without having any semblance of religion, are "the most moral people under the sun:" "The Dyaks are entirely free from the long list of unmentionable male and female diseases which appear to have been developed by the human race only at its highest stage of civilization and refinement. . . . I must leave it to the medical faculty to tell us why those blessed savages are free from consumption, heart disease, paralysis, cancer, tumor, scarlet fever, whooping-cough, diphtheria, meningitis, rheumatism, Bright's disease, neuralgia, pneumonia, and even cramp colic. The reasons why

they are free from dyspepsia, insomnia, headache, nervous exhaustion, loss of appetite, and gout are apparent to every one, I am sure: they are strictly temperate in all things—in eating, drinking, working, and sleeping; eat only what is good for them, and make fools of themselves in nothing."

These facts do not contradict statistics which prove that there has been a steady increase in the duration of human life, coincident with the progress of our civilization. During the last three hundred years there has been an increase of one hundred per cent in the average term of life. Arbitration has supplanted the battle-field. Pestilence, plague, and scurvy, which formerly carried off their thousands, are not known under our improved sanitary conditions; the discovery of vaccine prevents the scourge of small-pox; the practice of medicine is reduced to a science; the building of hospitals and the attention given to nursing greatly prolongs life; the invention of surgical instruments and skill in their use is another advance in this direction. True civilization always leads to physical, mental, and spiritual vigor, and, in so far as we have attained it, life is prolonged. It is false civilization which brings the refinements of disease. Our civilization is not perfect in every direction. While

FRONT OF TEA-GOWN: AN ADAPTATION OF GREEK DRAPERY.

in many respects there is gain, in others there is no progress, or perhaps even retrogression.

In the disastrous consequences which have come upon the race through the enervating influences of civilization, women have suffered more than men. Physicians are earnestly considering the "not-to-be-disputed fact that American women are growing into more and more of invalidism with every year." They point out not only the physical but the moral evils which threaten the human race in the devitalized condition of its motherhood. Invalidism or semi-invalidism is the rule. Even a condition of passive health, or the absence of active disease, is seldom seen. Health in its highest sense, which signifies exuberance of spirit and both vital and moral energy, is almost unknown. The decline from strength to weakness has been so gradual that we have been hardly conscious of the process, and weakness is accepted as a legitimate condition. To assert that this state of invalidism is preordained for the female race is an impeachment of Divine justice. We are forced to the belief that it is the result of false principles and methods of living.

In considering the subject of woman's health it is not necessary that a comparison of the relative

strength of man and woman be made. There are not sufficient data to formulate an absolute hypothesis. It is only necessary to show that woman, with man, was ordained to a pure and vigorous life.

Dr. Dio Lewis says that "a first and indispensable step in the restoration of woman to physical vigor is to show that in her normal state she is a healthy, vital being. The popular notion that the ill-health of our women is natural must be overcome." Dr. Lewis has gathered much valuable evidence to support his theory. He says: "Among our emigrants of the rougher sort women are quite as tough as the men and work hard more days in the month. For thirty years, in meeting missionaries and travellers who have visited Asia and Africa and the American Indians, I have persistently asked about the health of women. In no instance was I told that women are in worse health than men; while it was sometimes stated that the health of women is better, because of various evil habits among men."

All investigations among savage tribes, where women are engaged in active out-of-door life, show that her strength and endurance are equal to that of man. Usually the drudgery and hard work come upon her.

Dr. O. G. Given, physician to the Indian school at Carlisle, says: "The men, as a rule, are not as well developed, physically, as the women, and are the drones of the Indian camp, while the women are the working bees." The American squaws are said to be "second only to the ponies in the size of their loads and in the distance they can carry them."

Dr. Kellogg says: "Among savage tribes the women do most of the hard work. The Mexican woman cultivates the ground, cares for the household, cooks the meals, and makes the clothing for her lazy lord, rears the children, and, when moving-day comes, trudges off with all her household goods upon her shoulders, and the younger members of her family on top of all. Stanley says that the strongest and most enduring porters he found in Africa were women. In Germany, the peasant woman toils beside her husband in laborious employments, and appears to be as healthy as though she were a man. In France I found it a common thing to see a line of men digging a trench for a water-pipe, and a woman at the head of the line breaking ground."

"The body-guard of the King of Dahomey is composed entirely of women, forming a regiment

from 1,200 to 2,500 strong. They are more masculine in appearance than the male soldiers, are tall and muscular, and possessed of unflinching courage. They are the best fighters in the Dahoman army, the men being comparatively worthless."

Professor A. C. Cowperthwait makes the following observations: "The fact that the female is physically inferior to the male is not due so much to her natural organization as to the fact that the mode of life which modern society forces upon her is unnatural, and begets physical degeneration. It is only when the deteriorating influence of refined society begins to operate that we find the physical organization of the female depreciating, and her powers of endurance, as well as her capacity for resisting disease, becoming inferior to those of the male." Such observations justify the conclusion of Dr. Kellogg: "I can see no reason why a well-developed woman may not equal in endurance a man of the same size and development."

How far we have departed from the ideal of a perfect woman nobly planned is self-evident. Women are designated as the weaker sex. They are compared to the tender, clinging vine, depending for strength on the masculine oak. The elements in nature which suggest strength—the sea,

the sun, the wind—are poetically expressed in the masculine gender. The chivalry of the feudal ages and the gallant deference of the present day are humiliating tributes of society to the weakness of women. They are the mock homage of power to helplessness. Woman is regarded, and regards herself, as a being of feeble physical power, preordained to hysterics, tears, and nervous prostration. She rarely attempts any work which involves endurance or an outlay of muscle. She has accepted with patient resignation the enervated life to which she believes herself called. Vice grows by that which it feeds upon, and at length woman has actually learned to glory in the shame of her physical degeneracy. Tears, which are a disgrace on the cheek of man, are her refuge and weapon. The slim, tapering finger which tells of polished idleness, flabby muscles, the dainty form and delicate complexion, are objects of admiration. Why should a powerful physique in man be universally admired, and the small, insignificant physique of a woman be dubbed by the words piquant, petite, dainty, and the like? A woman has so far forgotten the ideal for her sex as to say even of the character of woman, "The female mind has a radical weakness which is often also its peculiar

charm." Alas for a people whose power lies in weakness!

What causes have been at work in the dwarfing of womanhood? Scientists explain the varieties in living organism by the influence of environment. Development is progressive or retrogressive according to the nature of the surroundings. Environment gives to the working woman the powerful arm and the broad waist girth. It gives to the average Anglo-Saxon the puny arm and the fragile waist. The two classes differ as widely as the dray horse and the racer.

Environment is the cause of much which we deplore in the character of woman. Her virtues and vices are of the passive order. There is nothing in sex which makes a soul cowardly, emotional, artful, dissembling, untruthful, irresponsible, untrustworthy, capricious, or fretful. These qualities, by which women are characterized and often satirized, are largely the result of physical weakness and inferiority. A man conscious that he has not strength for self-defence might be a coward. A man of weak body might be emotional. A man dependent on others for the means of existence might be artful and dissembling. A man not intrusted with large affairs might be irresponsible.

A man not educated to regular employment might be capricious. A man confined to petty details, without the exhilaration of out-of-door life might become fretful.

This is denominated Woman's Age. Miss Willard says concerning it: "Of all the discoveries of this century the most wonderful is this—woman has discovered herself." This discovery is in the direction of educational and social advantages. The responsibility involved in these advantages demands higher living in every department. In the discovery of herself woman must learn that a life of intellectual and moral equality demands physical equality. For not only does intellectual and moral power depend upon the physical, but these higher gifts are of little value in their application to practical life without a body to sustain and execute. Emancipators of women have commenced in the wrong way. Before admitting girls to the curriculum of the college they should be admitted to the ball-ground, tennis-court, and gymnasium. A recent novel holds up to pity a Girton girl who was made "Third Classic" at Cambridge: "Oh, cruel century that has put such a strain upon a growing woman." There is much truth in this view of the higher education of women.

Young girls have not the physical stamina to endure the hard work, vicious excitement, and the competition which form a part of college life. Comparatively few attempt it. Those who do are carried in the arduous struggle chiefly by nerve and will power. This expenditure of vital force is so much withdrawn from the processes of nutrition and assimilation. It reacts on the mind as well as the body. On the basis of a good physique the coming woman will have an intellectual and moral equipment widely differing from the present type. Excessive sensibility will be held in equilibrium, not by the effort of the will, but by the counterbalance of a substantial physical organism. Experience shows that "weak, shaky, hysterical nerves accompany soft, flabby muscles." When the higher education of women begins with the physical, nervousness and hysteria will be despised by them as by men, and unless it begins here the coming generations will show still greater lack of nerve equilibrium.

A body so healthy as to beget a sweet temper; not subject to headaches and nervous prostration; not exhausted by slight exertion; a nervous system not rasped by the petty frictions of every-day life; a physical vigor which shall bequeath to

An example of Gown which has no division between skirt and waist.

coming generations a heritage of acquired health and character; all these ought not to be the traits of the exceptionally endowed woman, but the characteristics of every woman. The circle of feminine graces must be enlarged until it includes courage, self-reliance, self-control, truth of being, spiritual freedom, graces which we are accustomed to consider as belonging to noble manhood. There is no sex in soul. The graces which dignify manhood will also dignify womanhood. The graces which ennoble womanhood will also ennoble manhood.

Since physical weakness handicaps woman's activities, bars the way to higher education and hinders the development of many noble traits of character, it follows that an important step in the attainment of true womanhood lies in the direction of physical reformation.

CHAPTER II.

CAUSES OF ILL-HEALTH.

"God never meant to give any one pain. He made His laws, and they are wholesome and perfect and true, and if we disobey them we suffer the consequences." —*Annie Payson Call.*

"Our deeds still travel with us from afar,
And what we have been makes us what we are."

THERE is much truth in the saying of Dr. Johnson, "Every sick man is a rascal." The invariableness with which sickness follows transgression shows that disease is not an arbitrary infliction of Providence, but is the result of the simple, universal law of cause and effect. "Pain is the interpreter of wrong—God's moral sentence felt, beheld, everywhere present, the frown of His abhorrence to wrong, the pungent witness of our guiltiness." In this great law that suffering follows transgression, the innocent often suffer for the guilty. The destiny of the present generation hangs on the right or wrong doing of the generations which are

gone. The Jews of old believed that disease was a vengeance of Heaven descending on those who were guilty of heinous sin. They asked of Christ, "Who did sin, this man or his parents, that he was born blind?" Christ's answer rebuked the crude conception. There had been no specific sin either on the part of the blind man or of his parents. It did not contradict the general law, taught throughout the Scriptures and realized in the experience of the individual and nation, that the sins of the fathers are visited upon the children until the third and fourth generation. This law of heredity was ordained for righteousness, and is the highest incentive to good living. It is the continuous choice of evil which makes it a savor of death unto death instead of life unto life.

The universal ill-health of civilized woman suggests that something has been and is wrong in her mode of life. The comforts, education, and morality of civilization ought to bring added strength and power. The failure must lie in some external cause, which may be removed by external measures. It is necessary that this weakness be traced back to its origin, for "only by comprehending the historic growth of an organic defect are we able to prescribe the best remedies. Such deformities are

often symptoms of deeper evils." In removing the cause we shall not in one generation return to the heights of physical integrity whence we are fallen. Every advance will make the way easier for succeeding generations, and the law of heredity will break in blessings on the thousands who come after us.

Among the conditions which have produced the ill-health of women, physicians enumerate :

Improper ventilation.

Improper food.

Lack of fresh air and sunshine.

Lack of exercise.

Over-study and mental strain.

Excessive nervous development.

Improprieties of dress.

It is the purpose of this work to show the disabilities which come through errors of dress.

Organic disease and various enervating conditions stand related to irrational dress as effect to cause ; lack of fresh air, lack of sunshine and exercise and excessive nervous development are largely the result of its impediments and restrictions. Dr. Dio Lewis gives the following classification of errors in dress :

" 1st. The corset, which reduces the waist from

three to fifteen inches, and pushes the organs within downward.

"2d. Unequal distribution. While her chest and hips are often overloaded, her arms and legs are so thinly clad that their imperfect circulation compels congestion of the trunk and head.

"3d. Long, heavy skirts, which drag upon the body, and impede the movement of the legs.

"4th. Tight shoes, which arrest circulation, and make walking difficult. High heels, which increase the difficulties in walking, and so change the centre of gravity in the body as to produce dislocations in the pelvic viscera."

Minor errors are, tight sleeves and garters, which interrupt the circulation of the blood; the bustle, which presses on the solar plexus and interferes with the equilibrium of the body; veils, which produce various diseases of the eye. Of these evils the most serious are those occasioned by the corset. The statistics of the corset makers and sellers of London show that the average size of the female waist has decreased during the last twenty-five years by two inches. The observation of corset makers is as follows: "Fashionable ladies and thousands who imitate them purchase corsets which are from three to ten inches smaller than

their waists, and then lace them so as to reduce their waist from two to eight inches." More than one corset maker has placed the average higher than these figures.

A physician says: "Woman by her injurious style of dress is doing as much to destroy the race as is man by alcoholism." Another physician, Dr. Ellis, says: "The practice of tight lacing has done more within the last century toward the physical deterioration of civilized man than has war, pestilence, and famine combined." Dr. Kitchen, of New York, says: "This appliance kills slowly, and, to the unlearned, imperceptibly; nevertheless the corset on a child is a slow murder of the child, and, if she be of a phthisical or consumptive tendency, it is not so very slow murder either. . . . Every woman who has grown up in a corset, no matter how loosely worn, is deformed."

Miss Frances Willard says: "But woman's everlasting befrilled, bedizened, and bedraggled style of dress is to-day doing more harm to children unborn, born and dying, than all other causes that compel public attention. With ligatured lungs and liver as our past inheritance and present slavery, the wonder is that such small heads can carry all we know! Niggardly waists and niggardly brains

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go together. The emancipation of one will always keep pace with the other; a ligature around the vital organs at the smallest diameter of the womanly figure means an impoverished blood supply in the brain, and may explain why women scream when they see a mouse, and why they are so terribly afraid of a term which should be their glory, as it is that of their brothers, viz., strong-minded."

Dr. T. Gaillard Thomas says that improprieties of dress are one of the factors which depreciate woman's powers of endurance and capacity for resisting disease. He points out the various organic diseases which result from the strictures of dress and the exposure which is entailed by the inadequate clothing of the lower extremities.

Dr. Emmet says: "At the very dawn of womanhood the young girl begins to live an artificial life utterly inconsistent with a normal development. The 'girl of the period' is made a woman before her time by associating too much with her elders, and in diet, dress, habits, and tastes she becomes, at an early age, but a reflection of her older sisters. Her bloom is often as transient as that of a hothouse plant where the flower has been forced by cultivation to an excessive development, by stunting the growth of branches and limiting the spread

of its roots. A girl scarcely enters her teens before custom requires a change in her mode of dress; her shoulder-straps and buttons are given up for a number of strings about her waist, and the additional weight of an increased length of skirt is added. She is unable to take the proper kind or necessary amount of exercise, even if she were not taught that it would be unladylike. Her waist is drawn into a shape little adapted to accommodate the organs placed there, and, as the abdominal and spinal muscles are seldom brought into play, they become atrophied." Dr. Emmet enumerates the evils which result from this pressure and the fact that men would be unable to endure the exposure of out-of-door life with clothing so inadequate as that of women.

The defects in the physical structure of woman, the aggravating cause and the remedy to be applied, are pointed out by Prof. D. A. Sargent, of Harvard College, in *Scribner's Magazine*, February, 1889: "From an anatomical point of view the tissues of a woman do not differ materially from the tissues of a man. The bones, muscles, arteries, and nerves are similarly constituted, and are governed by the same laws in their development. So, also, are the heart, lungs, stomach, and brain. Any-

thing that will impair the function of an organ in one sex will certainly interfere with its action in the other. If you put a tight bandage around the waist of a man the physiological functions of the abdominal and thoracic organs are for the time impaired, and the man is unable to make more than two-thirds of the mental and physical exertion of which he is capable. When we reflect that woman has constricted her body for centuries, we believe that to this fashion alone is due much of her failure to realize her best opportunities for development and through natural heritage to advance the mental and physical progress of the race. We are the more firmly convinced of this fact from the rapid advancement that women make in health, strength, and physical improvement under favorable circumstances. This would seem to indicate that their bodies had been held in arrears and were pining for freedom of movement and exercise. . . . To woman's mode of dress and to the many constraints to which she has been subjected for centuries must we look for the constant factors that have tended to retard her development. The most powerful agents in giving shape to the bony framework and accelerating its growth and development are the muscles that are attached to it. Muscles

grow large and vigorous from use, and from disuse become weak, flabby, and relaxed. If the muscles are inactive the nutrition of the bone to which they are connected will be impaired. Put a restriction around the waist of a boy or girl so that the arms cannot be raised above the head, or issue an edict that the legs shall never be raised above a certain angle, and you will as certainly retard the growth and the development of your boy and girl as you would the limbs of a tree similarly interfered with. Remove the restriction from the waist of the boy and place still another around the legs of the girl, merely to remind her that she is a girl, and in a year or two you will find a difference in their development. The arms and legs of the boy will be stronger and longer, and the muscles of his chest, shoulders, and back increased in size from frequent practice in rowing, ball-playing, running, jumping, and such general gymnastics as boys indulge in. If the girl were allowed to enjoy the same privileges she would realize the same physical advantages to just such an extent as her clothes would render it possible for nature to work upon her body. On the other hand, through a too rigid regard for the proprieties that must be observed, just to remind the girl of her sex, the young lady will

probably not touch a ball, or row, run, swim, or enter the gymnasium. As a consequence she will probably not enjoy the physical and mental advantages of these invigorating exercises, but will have relatively shortened limbs, a weak back, drooping head, flat chest, and all the mental and nervous characteristics of a girl wanting a good physical tone."

The foregoing statements have not the weight of statistical demonstration. They are, however, valuable as the consensus of opinion of men whose great experience gives practical knowledge. Dr. Thomas and Dr. Emmet are foremost in the practice of gynecology in this country, and Dr. Sargent is a high authority on physical development.

CHAPTER III.

THE PRESSURE OF THE CORSET.

"Facts are stubborn things."—*Gil Blas.*

For centuries past physicians and moralists have condemned woman's dress in general terms, yet accurate investigations as to the nature and extent of its injury are comparatively recent. The physician of to-day is able to speedily put every hypothesis to the test of demonstration.

Dr. Robert L. Dickinson of Brooklyn has made special and detailed investigation concerning the amount of pressure exerted by the corset, the distribution of the pressure, and the resulting displacements. We must have indisputable facts regarding the pressure of the corset, because the sensations of the wearer are not trustworthy. A pressure which distresses one woman is not felt by another.

Dr. Dickinson ascertained the pressure of the corset by the use of the manometer. Briefly de-

scribed, the manometer is a cut glass tube, filled with mercury, to which a scale is attached. A bag is connected with the glass tube by means of inelastic tubing filled with water. In ascertaining the pressure of the corset the instrument is so held that the bag and the tops of the water columns are on the same level; the corset is closed and the pressure is indicated by the rise of the mercury as registered on the sliding scale of the tube. The pressure of the corset on each square inch is found by shifting the bag about under the corset. The sum of the pressure in various areas gives the total amount. The least pressure which Dr. Dickinson has estimated from a corset is 21 pounds; the greatest pressure he has found is 88 pounds. The pressure of a loose corset is about 35 pounds.

It would be difficult to find a woman strong enough to lift, even for a moment, a weight of 88 pounds. A sack of flour weighs 25 pounds—10 pounds less than the pressure of the loosest corset. How many women can carry a sack of flour? Yet here we have a constant pressure upon the vital organs of a weight which cannot be borne by the arms.

Dr. Dickinson observes that the thoracic cavity suffers less diminution in size and alteration in

FIG. 1.—The heavy outline is the tracing of the corseted woman; the light, the same without corsets.

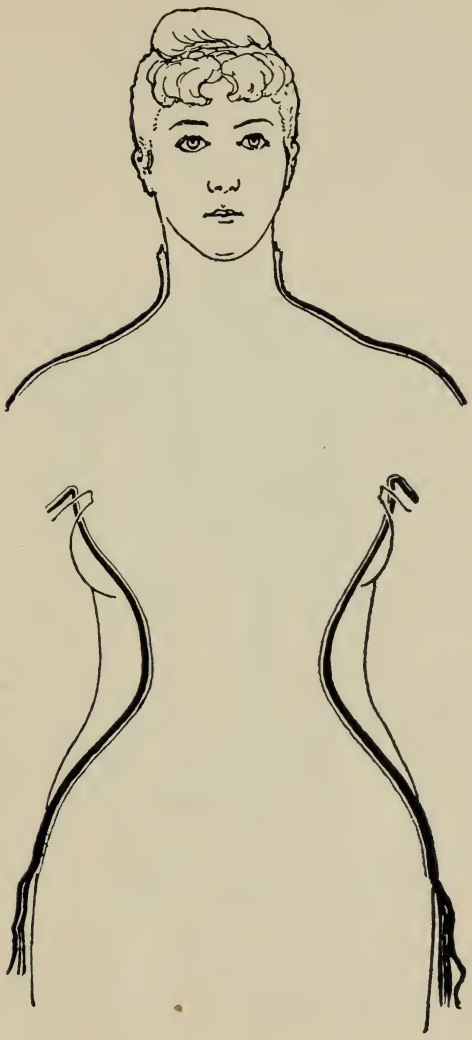


FIG. 2.—The heavy outline is the tracing of the corseted woman; the light, the same without corsets.

shape from corset-wearing than the abdominal, for the reason that the thoracic organs may readily accommodate themselves to a pressure which simply squeezes out some residual air, while the abdominal viscera must be displaced.

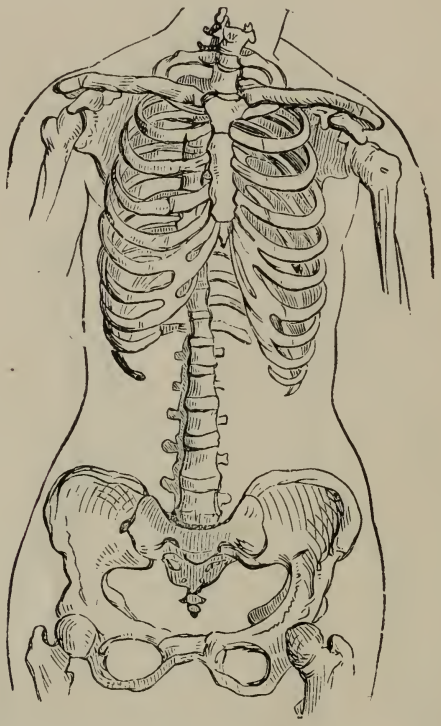


FIG. 3.—Anterior view of thorax in the natural form.

Dr. Dickinson's sketchés showing the changes in contour of the thorax and abdomen were made by accurately ascertaining the normal and corset outline, in the same subject, by blackboard tracings

or shadows thrown on manilla paper (Figs. 1 and 2).

The change in the bony structure of the thorax is shown by Dr. Trall's illustration (Figs. 3 and 4). The floating ribs, which in the unrestricted body

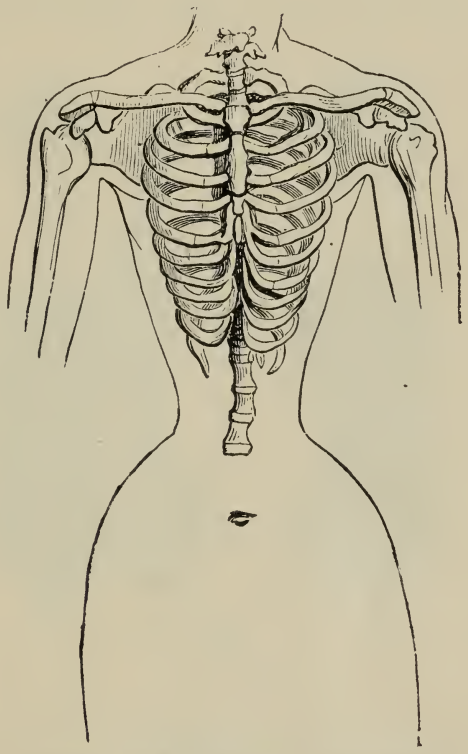
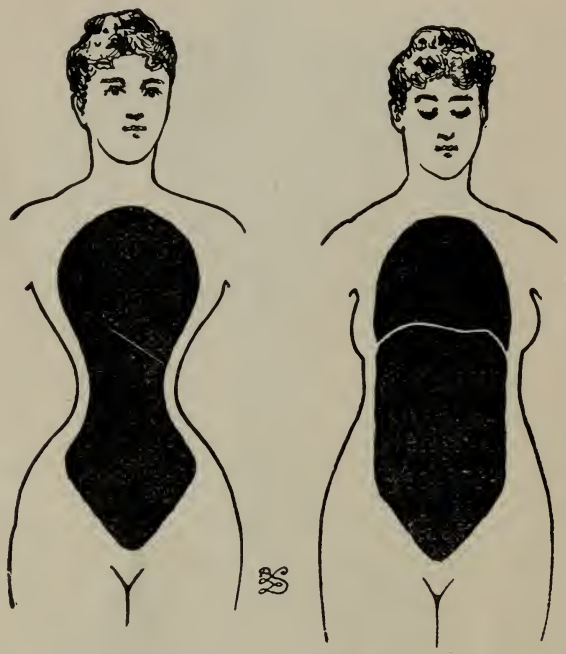


FIG. 4.—Anterior view of thorax in the corseted figure.

spread widely apart, are in the compressed waist squeezed inward and downward, until they nearly meet in the centre.

By the pressure of the corset the shoulders are

raised, the upper lobes are forced to do the breathing, the five upper ribs are raised and the interspaces widened. This broadening above and constricting below Dr. Dickinson illustrates by Figs. 5 and 6. The expansive power of the lungs is reduced by this perversion about one fifth.

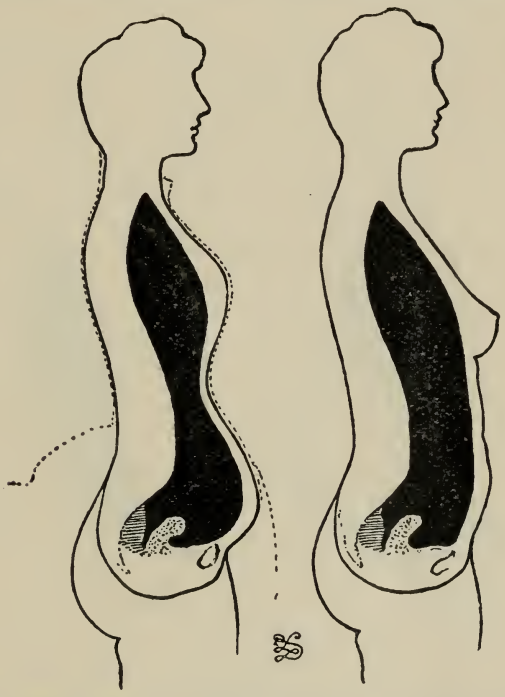


FIGS. 5 and 6.—The shape of the cavity when the corsets are tight; the same without corsets.

The change in the shape of the abdominal cavity is shown in Figs. 7 and 8. Dr. Dickinson calls especial attention to the close approximation of the belly-wall to the spinal column and to the bulging of the stomach (Fig. 7). "Without the corset the

breasts project beyond the abdomen, . . . whereas when the corset has raised the bust and crowded the abdomen down and out the supra-pubic wall becomes the most projecting part of the profile."

Dr. Dickinson shows that the big stomach which afflicts the stout, corseted woman is the result of



FIGS. 7 and 8.—Antero-posterior section; shape of cavities with and without corsets.

pressure on the abdominal wall. The adipose tissue is thinned under the region constricted, and the fat accumulates below the umbilicus. That this is not normal is proved by the fact that, in

men, the fatty layer is usually thicker above than below the umbilicus. The same is true of women in good physical condition. Thus "the woman who abhors a stomach yet adopts the most effective way of cultivating one. . . . That the compression acts on muscle as well as fat is clear when we call

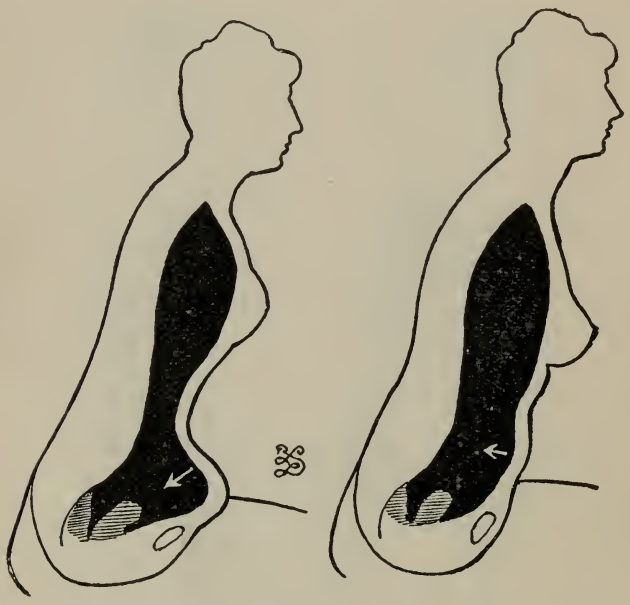


FIG. 9.—The effect of bending forward, when seated, with and without corsets.

to mind the contrast between the hard abdominal parietes of the average man and the lax belly of most women. Engel reports cases in which the peristaltic movements could be watched through walls thinned from tight lacing. Of course, disuse

and the less need of constantly balancing the body has much to do with the atrophy of the abdominal

Fig. 10.—The heavy outline with corsets, the thin without corsets.

muscles of the female." Shroeder and others attribute to these muscles the expulsive power in childbirth. "If this theory is correct, the necessity

for the use of forceps in a large number of cases is due to corset-wearing."

FIG. 11.
Contour of natural waist.

FIG. 12.
Contour of corseted figure.

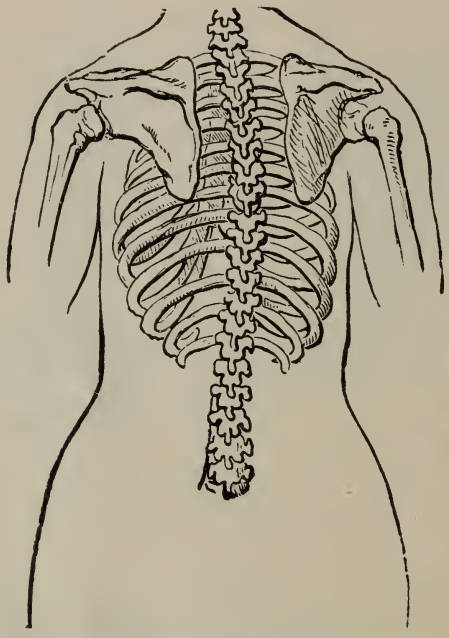


FIG. 13.—The natural shape of the spine.

Figs. 9 and 10 show how the pressure of the corset on the abdomen is increased when the body

DRESS FOR SCHOOL-GIRL, WITH VARIATIONS FOR THE NECK.

The student will observe that the round finish of the neck is very generally
d by artists.

is bent forward, as is necessary in many sedentary occupations. "The man bending forward relaxes his abdominal walls and enormously lowers his intra-abdominal pressure by so doing, but the corseted female who writes or sews produces just

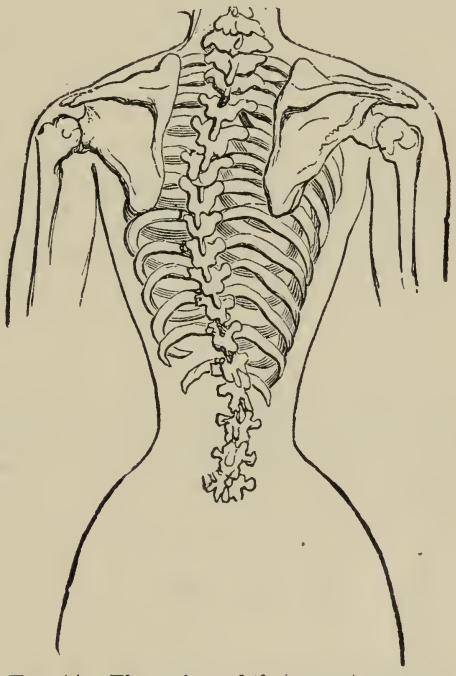


FIG. 14.—The spine of the corset wearer.

the opposite effect. In some cases the pressure over the navel is about double that in the erect position, notwithstanding the abdominal relaxation.

Fig. 11, by Dr. O. E. Stillman of Albany, is a sketch of the natural belt line. It was made by careful measurement of the waist girth of a laboring

woman who had never worn corsets. It should be contrasted with the stove-pipe waist-line of a corset-wearer (Fig. 12).

Fig. 14, by Dr. Trall, show changes in the shape of the spine induced by corset pressure. Dr. Trall says on the subject: "Spinal distortion is one of the ordinary consequences of lacing. No one who laces habitually can have a straight or strong back. The muscles being unbalanced become flabby or contracted, unable to support the trunk of the body erect, and a curvature, usually a double curvature, of the spine is the consequence."

Reference. The Corset: Questions of Pressure and Displacement. By Robert L. Dickinson, New York Medical Journal, November 5, 1887.

CHAPTER IV.

HOW SHALL WOMAN BREATHE?

"Girls kill the breath with corsets that squeeze the diagram. Girls can't run or holler like boys because their diagram is squeezed too much. If I was a girl I'd rather be a boy, so I can run and holler and have a good big diagram."

—*Boy's Composition.*

THE fact that a notable difference exists between the method of breathing in man and woman has been noted since the time of Boerhaave. The former breathes chiefly with the lower portion of the chest, which is called the diaphragmatic or abdominal type of breathing; and the latter breathes principally with the upper portion of the chest, which is called the costal type of breathing. The two types of breathing may be recognized by the eye. Observe the act of respiration in a man. You will see no perceptible motion of the chest, but a strong, regular movement of the abdominal muscles. Observe the act of respiration in the

average woman. You will notice a rapid, violent heaving of the chest and almost no action of the abdominal muscles. The order of abdominal and costal breathing in the female is the exact reverse of that of the male. The difference in the method of breathing is so universal among civilized women that it has, until recently, been supposed by physicians that the costal breathing of women is primitive; Adam was created to breathe abdominally and Eve was preordained to pant with the upper chest. Anatomists have even kindly attempted to justify the Creator in this remarkable phenomenon. They explained that in the process of generation there are periods in the life of woman in which abdominal breathing is difficult, and to meet the demands of reproduction, the Creator reversed the type of breathing in women.

Within the last few years anatomists and physiologists have discredited the theory that the reversed type of breathing is designed by nature. They observed that there was no perceptible difference in the respiratory movements of boys and girls up to the age of about twelve or fourteen years; that uncorseted laboring women breathe after the masculine type; that, during sleep, when the abdominal muscles are unconstrained by dress,

woman's respiratory movements are abdominal. Moreover, there is no provision of chest respiration to meet the difficulties of generation among females of the lower order of animals. Recently several physicians have made careful examination of the mechanism of breathing among women who have never worn civilized dress, and the investigations prove that the reversed order of breathing is due to the corset and not to the wise provision of the Creator. Dr. Mays of Philadelphia carefully examined the chest movements of eighty-two Indian girls of the Lincoln University. These girls had been brought to the school in their wild state and had never worn tight clothing. As a result of these investigations, Dr. Mays observed that "a most marked modification has taken place in the movements of the female thorax during the transition period from savage to civilized life. A complete reversal of the type of respiration has taken place; the abdominal type of the Indian becoming the costal type of the civilized female." That this reversal has been effected principally by dress, Dr. Mays proves by various experiments.

Dr. J. H. Kellogg says, concerning the theory that costal breathing is natural to woman, "in arriving at this conclusion physiologists seem to have

confined their studies of respiration in women wholly to civilized women, in whom the mode of dress is evidently calculated to produce serious interference with the respiratory faculty. It is undoubtedly true that most women do breathe with the upper part of the chest; but whether this is a natural peculiarity or an acquired, unnatural, and depraved one, is a question which I am inclined to answer in harmony with the latter supposition, basing my conclusions upon the following undeniable facts:

"1st. In childhood and until about the age of puberty, respiration in the boy or girl is exactly the same.

"2d. Although there is a change in the mode of respiration in most females, usually soon after the age of puberty, marked by increased costal respiration and diminished abdominal or deep respiration, this change can be accounted for on other than physiological grounds.

"3d. I believe the cause of this modification of respiration is the change in dress which is usually made about the time of puberty. The young girl is now becoming a woman and must acquire the art of lacing, wearing corsets, stays, and sundry

A simple form of walking-dress, of the conventional length. There are no forms in the back and no darts in the front of the bodice. The model from whom the drawing was made weighs 150 pounds.

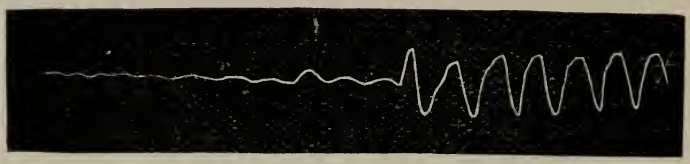
other contrivances which will aid in producing a 'fine form.'

"4th. I have met a number of ladies whose good fortune and good sense had delivered them from the distorting influence of corset-wearing and tight-lacing, and have invariably observed that they are capable of as deep respiration as men and practise it naturally. I am thoroughly convinced that this so-called physiological difference between man and woman is really a pathological rather than a physiological difference. In short, I believe that the only reason why women do not, under ordinary circumstances, breathe as do men is simply that they cannot breathe naturally."

Dr. Kellogg's investigations were made with the pneumograph and recording cylinder. The pneumograph is placed successively on the chest and abdomen. It rises and falls with the act of respiration, and the power of the movement is indicated by the registering cylinder. Fig. 15 represents the breathing of a man and Fig. 16 the breathing of a civilized woman. The curves of the former show almost no motion in the chest and strong motion of the diaphragm. In the latter the order of costal and abdominal breathing is reversed. Dr. Kellogg's first observations were upon Chinese

women of San Francisco who know nothing of waist constricture. Of twenty Chinese women whom he examined "not one presented the costal type of

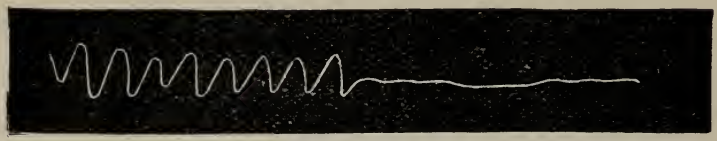
FIG. 15.



Costal. **Abdominal.**

Man.

FIG. 16.

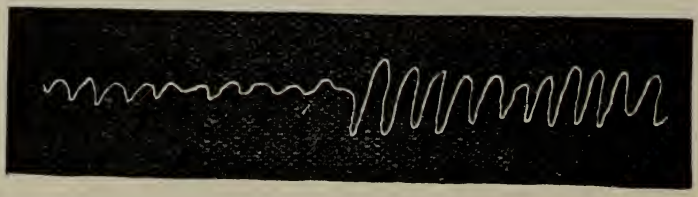


Costal. **Abdominal.**

Civilized Woman (unmarried, age 33 years).

respiration. In every one the abdominal breathing was as prominent as in males who lead sedentary lives" (Fig. 17). Dr. Kellogg's next observations

FIG. 17.

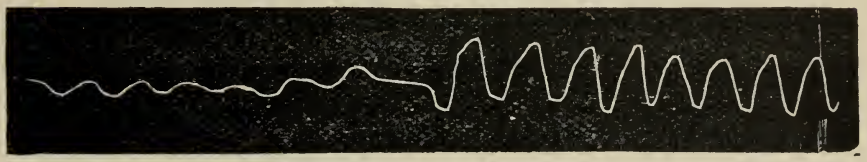


Costal. **Abdominal.**

Chinese Woman.

were upon the Yuma Indians of Arizona. The toilet of the Yuma squaw consists only of a birch bark apron. The girth of the waist was, on the average, about one and one half to two inches less than the chest girth. Tracings by the pneumograph gave strong abdominal curves, showing the male type of breathing. Figs. 18, 19, and 20 explain

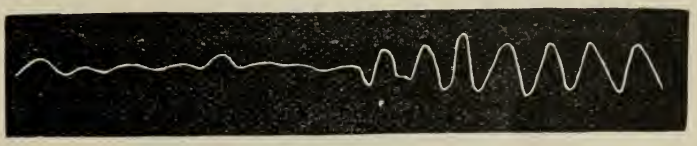
FIG. 18.



Costal. **Abdominal.**

Indian Man (Chickasaw).

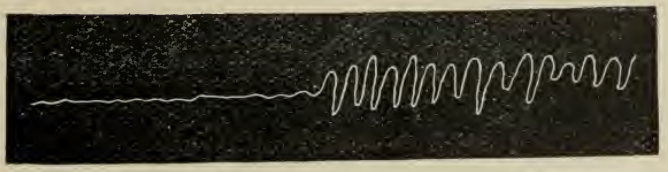
FIG. 19.



Costal. **Abdominal.**

Indian Woman (Chickasaw).

FIG. 20.

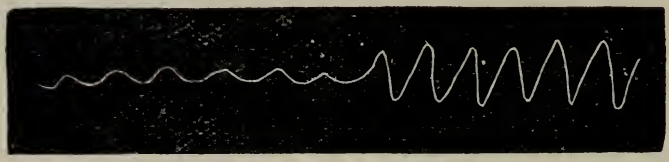


Costal. **Abdominal.**

Chippeway Indian Woman.

themselves and show that the women of the Chickasaw and Chippeway tribes breathe after the manner of the men. Fig. 21 represents the respira-

FIG. 21.

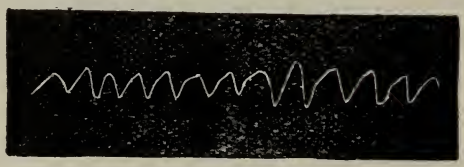


Costal. **Abdominal.**

A Scotch Woman, who has never worn a corset (age 45, unmarried).

tory movements of a Scotch woman, forty-five years of age, who had never worn corsets and had never been afflicted with the pelvic disorders so common among civilized women. The tracings indicate the male type of breathing. Fig. 22 shows the respi-

FIG. 22.



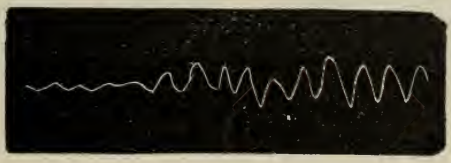
Costal. **Abdominal.**

Woman at Seventh Month of Pregnancy.

ratory movement of woman in the seventh month of pregnancy who had worn tight corsets until within a few weeks. Fig. 23 shows the respiratory

movement of a woman one week before confinement. She had worn tight corsets for ten or twelve years, but had worn loose clothing during the pre-

FIG. 23.



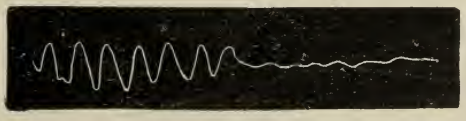
Costal. **Abdominal.**

Woman, a Week Before Confinement.

natal period. Abdominal respiration is well pronounced notwithstanding the supposed impediment of gestation.

Both Dr. Mays and Dr. Kellogg have observed the respiratory movements of men in corsets. The results show that a man in corsets breathes like a woman in corsets, with the costal movement. Dr. Kellogg's tracing (Fig. 24) represents the reversed order of breathing in a corseted man.

FIG. 24.

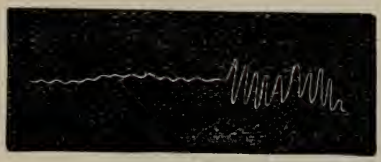


Costal. **Abdominal.**

Man in Corset.

Figs. 25 and 26 show that among animals the type of breathing is the same in male and female.

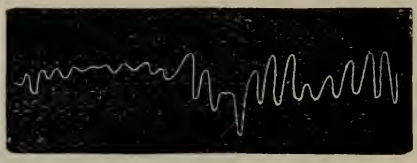
FIG. 25.



Costal. **Abdominal.**

Male Dog.

FIG. 26.

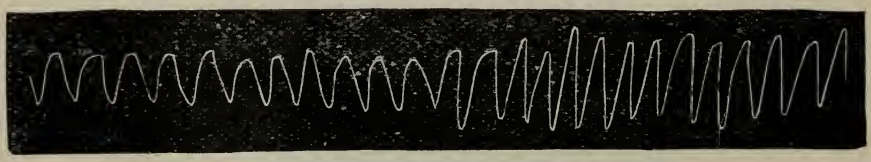


Costal. **Abdominal.**

Female Dog.

Dr. Kellogg's experiments prove that "women who have never worn tight clothing breathe abdominally, as do men, and that civilized women who have formerly worn corsets, after having modified their dress in accordance with the demands of health, subsequently acquire the abdominal type of respiration" (Fig. 27).

FIG. 27.



Costal. **Abdominal.**

A Reformed Corset-wearer (ordinary respiration).

All experiments on this subject show that, aside from clothing, physical weakness and sedentary habits in either man or woman tend to chest-breath-

ing. A sick man sometimes breathes with the chest; when he does so he is, to use the words of a physician, "pretty far gone." Can anything be said in extenuation of habits of life which have so reversed the order of respiration in civilized women that, until the tests of modern science have been applied, an acquired type of breathing has passed for the natural type?

The other great organ of breathing is the diaphragm, a powerful muscle lying between the thorax and abdomen. Dr. J. M. W. Kitchen, who has given most careful study to this organ, says: "The vast majority of the human race live and die in absolute ignorance of the fact that there is such an organ as the diaphragm—one of the most important structures of the human body. . . . The possession of a highly developed diaphragm is a principal feature in the highly organized animal. Its possession gives to man great respiratory and vocal facilities, which would be lost with the abolition of the organ. . . . The whole civilized world is in bondage to a pernicious habit of dress—practised by women and countenanced by men—that threatens the abrogation of the diaphragm. Were it not for the nightly recess which the diaphragm receives from the constricting pressure of the tight waist, it

would soon atrophy, and life to the corset-wearer would be a very brief span."

The offices of this unknown organ, the diaphragm, are manifold. Its contraction and expansion are the initial movements in the act of breathing. Dr. Kitchen says that "next to the function of respiration, the diaphragm's most important use is in furnishing and regulating the necessary supply of air forced through the vocal and speech-organs in forming speech and song." Teachers of voice-culture tell us that sustaining perfectly the column of air is the greatest desideratum in the use of the voice, and that the diaphragm is the only muscle which holds the air-column in check. The first step in voice-culture is learning to breathe, and the first step in learning to breathe is learning to hold the diaphragm. As a result of voice-forcing among women who sing in tight clothing, we have the painful spectacle of the labored chest movement, almost invariably accompanied by a thin quality of voice. The delicate organs of the throat are compelled to do work which belongs to the powerful respiratory muscle.

We do not yet know the possibilities of the female voice, nor shall we know until, through generations of right living, women develop a vigor-

ous capacity for diaphragmatic breathing. Specialists observe that female artists require frequent seasons of rest, in order to retain the voice, and that they lose the vocal gift at an early age. Throat disorders are much more frequent among women than among men. Dr. Kitchen says that the laryngologist has fifty female patients to one male, and attributes the cause to the corset.

The old philosophers believed that the seat of the soul was in the diaphragm. When speech is formed by the organs of the throat our words are "born dead." They lack the quality which commands attention. Plato said: "Speak that I may know you." What judgment would that philosopher pass upon the character of the women of to-day, did his practised ear detect the impoverished quality of our tone-life?

The action of the diaphragm is necessary to digestion, because its movements press upon the liver and thus aid in the secretion of its fluids. The diaphragm assists also in the circulation of the blood, and its unrestricted movement is necessary to the strength of the pelvic muscles.

Among the diseases which can be traced to defective respiration are: affections of the throat and lungs, especially consumption, asthma, catarrh,

headache, and insanity. To enumerate different diseases which can be traced to lack of fresh air and defective circulation is to rehearse only a part of the evils occasioned by the use of the corset.

The nourishment and strength of every organ and tissue depends upon the supply of pure oxygenized blood. From the crown of the head to the sole of the foot there is not an organ or function which is not enfeebled and depressed. Dr. Sargent, in considering the strength of the two sexes, estimates a difference of ninety cubic inches in the capacity of the lungs. He says: "In order to ascertain the effect of tight clothing upon respiration, the spirometer was tried. The average natural girth of the chest over the ninth rib was twenty-eight inches, and with corsets twenty-six inches. The average lung capacity when corsets were worn was 134 cubic inches, when the corsets were removed the test showed an average lung capacity of 167 cubic inches—a gain of thirty-three cubic inches. Who can estimate its value to the entire system? Why preach the gospel of fresh air to women who deliberately throw away 20 per cent of it by the use of tight stays and corsets?"

The lack of endurance and physical vigor which characterizes women may depend to a great degree

upon their incapacity for lung expansion. Here also we find a cause of defective character. Courage, ambition, calmness, are born of vigorous respiration. Irritability and cowardness are born of insufficient respiration. The rapid heaving of the chest which is always found among tightly dressed women is the respiration which characterizes moments of great emotion. Fear, anger, passion, cause the pulse to quicken and the chest to heave. To go through the physical motions of such excitement predisposes one to the actual emotion. Deep breathing is already recognized as a powerful psychical force.

References Experimental Researches respecting the Relation of Dress to the Pelvic Diseases of Women. By J. H. Kellogg, M.D. The Diaphragm. By J. M. W. Kitchen, M.D.

CHAPTER V.

THE SINS OF THE CORSET REVEALED BY THE AUTOPSY OF THE LIVER.

No organ suffers more than the liver from tight lacing. This is owing to the fact that the liver is located in that part of the body where the pressure is greatest, and also to the softness of its substance, which Baum compares to that of fat and connective tissue. The form of the liver, according to Baum, "varies with the pressure and volume of surrounding organs." Not only is the form of the liver altered beyond recognition by the stricture of the corset, but its position and situation are changed. The form of the normal liver is given in Fig. 28.

I. *Form of Liver.*—"Sometimes the liver is rolled up into a rounded conical mass, but, more frequently, it is more or less deeply notched, by the turning inwards of the margin of the ribs." The corset first pushes the liver out of its normal position, then presses the floating rib into

its yielding tissues, forming a laceration which is called "the tight-lace furrow." Frerich says: "From its daily occurrence the tight-lace liver (Schnürleber) has an importance greater than is otherwise its due." The bottom of the groove is at

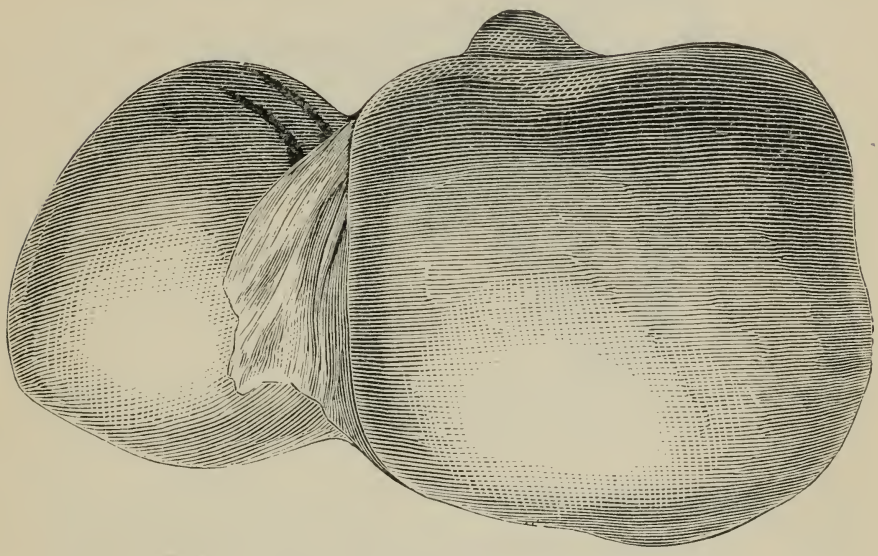


FIG. 28.—The Normal Liver.

times whitish in color from the thickening of its tissues. In some cases the furrow is so deep that the liver is almost cut in two. Coils of intestine frequently lie in it. Fig. 29, from Frerich's "Diseases of the Liver," shows the tight-lace depression and the series of folds sometimes produced in the liver by the narrowing of the base of the thorax. Dr. Frerich says that "a part of the right and usually

of the left lobe also becomes separated by a depression, the situation of this depression being sometimes higher and sometimes lower, according to the locality of the lacing. The furrow thus formed

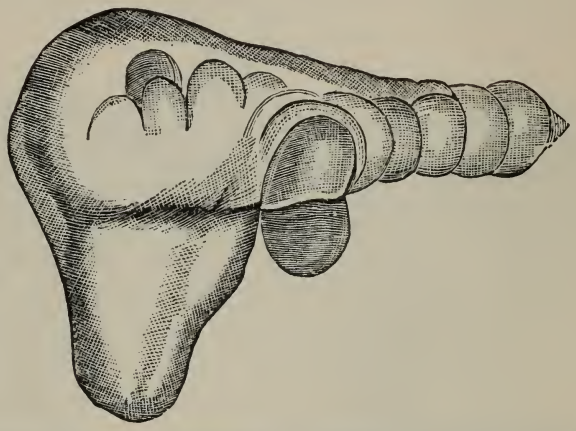


FIG. 29.—Liver with an abnormally prolonged left lobe and a tight-lace depression.

often penetrates deeply into the parenchyma, till there remains nothing more than a loose ligamentous connection, which allows a free motion of the separated portion.

The serous covering of this portion always appears thickened and of an opaque white, and the biliary ducts may be seen through the peritoneal coat, enlarged and full of a brownish mucus, the evacuation of which is prevented by the constriction present. The veins are invariably enlarged. The margins of the detached portion are rounded and

nodulated, and its tissue feels firmer and exhibits a finely granular appearance, similar to that which we find throughout the entire organ when there is an obstruction to the circulation of the blood in consequence of disease of the heart."

Dress reformers of the present day are exhorted to persuade in the name of the beautiful. One feels, therefore, like apologizing for these plain words and unsightly cuts. Yet scientific research compels women to see that which they would not otherwise believe. These deformed and lacerated organs are not confined to a few sufferers in a remote German hospital. They exist, to a greater or less degree, with every woman who wears the tailor style of dress, for even a slight pressure affects the delicate tissues of the liver. We may be sure that misshapen, diseased, and wounded organs lie under many a "tidy fit," though the corset-string is never drawn. For this reason the war of reform is waged against loose corsets and the entire system of smooth-fitting garments.

The lacing furrow may be produced in the liver, when corsets are not worn, by the use of tight bands. When heavy clothing is suspended upon the waist by means of strings or bands, the pressure

needed to keep them in place is very great. The dissecting-table has disclosed the liver of hard working peasant women, who had never worn corsets, entirely cut in two and held together by a calloused bit of tissue. These women wore heavy, quilted homespun skirts suspended at the waist by tight bands. The same effect is produced in men, when trousers are supported by the belt instead of by suspenders.

II. *Position of Liver.*—Corbin asserts that the liver is so changed in position that "the surface normally superior and horizontal becomes anterior and vertical. This effect is constant and is found in all, however loose the lacing may have been." The abnormal positions of the liver vary according to the part of the gland which is subjected to pressure. In the present fashion of dressing the organ is usually pushed downward. When the pressure comes on the upper third of the liver where the substance is of considerable thickness, "the axis is also carried very much downwards, and, in most cases, at the same time dragged over towards the middle line. . . . Upon examination, a liver of about the normal size is then, to all appearances, remarkably enlarged from its filling up the entire upper half of the abdominal cavity: even upon post-

mortem examination, this may be the first impression, until we are convinced of the contrary, by measuring and weighing the organ." Dr. Murchison says: "Apparent enlargements of the liver from tight lacing are far more common than is generally believed." It is difficult to distinguish a liver altered in position through the operation of lacing and that which results from inflammatory enlargement. Dr. Cruveilhier shows that the liver altered in position by lacing may always be diagnosed by the nodulated rounded margin.

All observers testify as to the extreme mobility of the liver. From this fact Dr. Dickinson asks: "Are we not justified in believing that even a loosely adjusted corset must definitely displace so mobile an organ? . . . The earlier corsets are worn, the more the liver will be affected, since it is proportionately much larger in the child than in the adult. Previous to puberty its weight may be as much as one thirtieth, or even one twentieth, of that of the entire body; in the adult it averages one fortieth."

The spleen, whose function is supposed to be the formation of blood globules, is variously affected. Sometimes it is enlarged, sometimes inflamed, sometimes wasted away, sometimes it adheres to the lining of the membrane which covers the ab-

domen. When the spleen is squeezed out of position it is called "the wandering spleen." Sometimes the extremity of the left lobe of the liver adheres to the spleen so that they are inseparable.

The office of the liver is to secrete juices for the digestion of food. Not only are the secretions of the liver interfered with, but the character of the bile secreted is changed. Dr. J. T. W. Collins has shown that tight lacing interferes with the flow of bile. "It has long been known to physiologists that the movements of the diaphragm aid the liver to empty its passages of bile. Each time the diaphragm contracts, it presses down upon the liver and forces out the bile. This has been experimentally proved by observations upon animals. Dr. Collins concludes, from experiments upon guinea-pigs, that by reducing the circumference of the waist one fourth the amount of bile is diminished one half. This damming up of the outlets for the bile has been shown to be the frequent cause of gall-stones, a malady which occurs much more frequently in women than in men."

The direct results of abnormalities of the liver are various diseases of that organ; jaundice, a disease to which women are especially subject; pleurisy, in consequence of inflammation; tumors and dys-

A HOUSE-DRESS.

pepsia. Under the conditions of constant pressure we may look for cancerous growths, sallow complexions, and the lugubrious expression of countenance which usually coexists with a "torpid

FIG. 30.—The present crusade is not against the corset only. It is against the system of clothing the trunk in tights.

liver." Our Health Associations and our Societies for the Prevention of Cruelty to Animals ought to institute proceedings against this destructive practice. Surely these things ought not so to be.

Alas for the atheism of woman's dress! Of all heresies this is the most insidious and impious.

Godliness is a very practical thing. It is reverence for the Creator in the conduct of every-day life. Religion is nothing more than right living, and a seamed liver means bad living. It shows that the soul is not in true relation with the Creator, and betrays a perverted moral sense.

References. Frerich's Diseases of the Liver, Vol. I. Dr. Robert L. Dickinson.—"The Corset," *New York Medical Journal*, 1887. Corbin.—"Des effets produits par les corsets sur le foie," "Gaz. méd. de Paris," 1830.

CHAPTER VI.

THE HEART, THE CIRCULATION OF THE BLOOD, ETC.

"I am fearfully and wonderfully made."

NATURE has wonderful resources. When one organ is disabled other organs are overtaxed to supply the lack. In consequence of obstruction to pulmonary circulation the heart is overworked to supply blood and keep up the circulation. Dr. Sargent has ascertained the influence of tight clothing on the action of the heart during exercise. "A dozen young women consented this summer to run 540 yards in their loose gymnasium garments and then to run the same distance with corsets on. The running time was two minutes and thirty seconds for each person at each trial, and in order that there should be no cardiac excitement or depression following the first test, the second trial was made the following day. Before beginning the running the average heart-impulse was 84 beats

to the minute; after running the above named distance the heart-impulse was 152 beats to the minute; the average natural waist-girth being 25 inches. The next day corsets were worn during the exercise, and the average girth of waist was reduced to 24 inches. The same distance was run in the same time by all, and immediately afterward the average heart-impulse was found to be 168 beats per minute. When I state that I should feel myself justified in advising an athlete not to enter a running or rowing race whose heart-impulse was 160 beats per minute after a little exercise, even though there were not the slightest evidence of disease, one can form some idea of the wear and tear on this important organ and the physiological loss entailed upon the system in women who force it to labor for over half their lives under such a disadvantage as the tight corset imposes." Obstruction to pulmonary circulation causes enlargement of the left ventricle, palpitation of the heart, and congestion of the brain, liver, and kidneys.

Pressure on the Stomach.—Every dyspeptic appreciates the statement of the vivisectionist who found that continual pressure on the stomach kills animals more quickly than when applied on any other organ. The compression of the corset pushes

the stomach in various directions; sometimes upward, when it encroaches upon the lungs; sometimes downward, when it deranges the organs below. Engel reports a stomach "shoved to the left, its axis changed from a horizontal or oblique direction to a vertical, so that the lesser curvature ran down to the left of the spinal column." Constrictions resembling the liver-furrow are sometimes found, and the stomach ulcer is frequently produced. Shœmmering, a German physician, found the stomach nearly cut into two parts by excessive and long continued pressure.

Pressure on Kidneys.—As an illustration of the injury of stricture to these organs, Dr. Mary Blake cites the experience of Austrian soldiers who retained the trousers about the hips by means of leather straps. An alarming prevalence of kidney trouble led to a careful examination of the cause. It was decided that the tight leather strap about the loins occasioned the disease and suspenders were made imperative. It is believed that pressure and heat upon the lower part of the back is an exciting cause of kidney disease among women.

The bowels, "the great sewers of the bodily system," are impeded in their peristaltic motion and deprived of the proper supply of blood. Constipa-

tion and the various diseases which result from it is produced, not only through the inability of the digestive organs to assimilate food, but through the weakness of the muscles whose office it is to eliminate waste matter. Among women tightly dressed it is very common to hear a rumbling sound in the bowels. A small portion of the intestines is reduced in size by compression, and in the effort of the intestinal contents to pass through, the sound is produced.

The Circulation of the Blood.—The circulation of the blood is prevented by the unequal distribution as well as the stricture of clothing. The trunk of the body is enveloped in many layers and the limbs which are near the ground, where cold currents of air circulate and moisture from the earth arises, are thinly clad. The circulation of the blood is impeded by stricture at the waist, by high, tight collars, tight sleeves, tight garters, and tight boots. The London *Lancet* recorded recently the death of a young woman from asphyxia caused by the tightness of the corset and collar. The blood was sent to the head through the arteries and its return through the veins was prevented by the tightness of the collar. Professor Forster, director of the University Ophthalmic Clinic of Breslau, made a careful observa-

tion of some three hundred cases of short-sightedness in children. "These observations led to the conclusion that too tight collars were in a large number of cases responsible for the trouble. He found the patients suffering from a chronic complaint brought on by a disturbance in the regular and normal flow of blood, which he traced to the wearing of collars which were not sufficiently loose, and parents and teachers were cautioned to guard against continuing their use." Dr. Bond attributes to the ligature of the garter the varicose veins and the varicose ulcers, which are the scourge of laboring people. Among this class the stockings are usually held in place by a cord or strap tightly bound below the knee. The injury of the garter is greater when it is worn below the knee, because above the knee the veins are somewhat protected by the two large tendons known as ham-strings. Dr. Bond strongly condemns elastic bands for the reason that they never relax their pressure. Non-elastic bands are sometimes relaxed during muscular reaction.

A garter tight enough to keep stockings snugly in place always makes a depression in the leg and seriously impedes the circulation of the blood. Cold feet and legs are frequent results of this

stricture. Numbness and cramps are occasionally produced. Equable circulation is necessary to health. The nutrition and power of every organ, tissue, and muscle depends upon the proper supply of good blood. Rush of blood to the head, neuralgia, often induced by defective circulation, are obvious consequences of the improper distribution and stricture of dress.

Loss of Muscular Power.—Exercise is the great agent of development. Women are debarred by dress from the general exercise which is necessary to physical well-being. They are not able to go out in unpropitious weather without exposure to danger from dampness of skirts and ankles. They are not able to move with vigor because of the weight and clumsiness of skirts; while the tightness of waist and sleeves prevents the free use of the arms and waist muscles. The muscles of the back, loins, and abdomen are used only by laboring women. "Muscles which are not used never develop. If restraint comes in adult life, the muscle degenerates and returns to infantile condition." Their health and strength affects also the circulation of the blood. To interfere with the function of the muscles of the back, loins, and abdomen is a dangerous process. Their strength is

DESIGNED BY E. T. JEWETT.

A house-dress, showing the beauty of unbroken lines.

an index of the strength of the body. Upon their vigor depends the vigor and health of the organs lying beneath. Tight dress causes also unnecessary friction in every movement of the muscles. If several ropes are to play through a given aperture and that aperture is reduced in size so that they are pressed sharply upon each other, they must wear out very rapidly under the increased friction. So if the muscles and organs are compelled to work under abnormal constriction, the result must be unnecessary wear, ending in pain and disease.

Lack of exercise induces dyspepsia, and Dr. Bayard Holmes attributes to it "the stealthy onset of the fat disease, which may well be called the second curse of women."

The internal organs require exercise for development. The lungs continually inspire and expel the air; the heart continually contracts and expands; the stomach continually rolls food for mastication; the diaphragm continually rises and falls; the bowels have a constant peristaltic motion. When these activities are interrupted, the vital organs are reduced in size and power, and their functions are weakened. Moreover, a purely local disease or weakness is impossible. When one organ suffers, every other organ suffers with it. This is es-

pecially true of the vital organs. The strength and well-being of the entire body depends upon the integrity and power of the heart, lungs, and stomach.

The Nervous System.—The great ganglia of nerves called the solar plexus lie posterior to the stomach, and are pressed from the front and the back by the corset. When the bustle is worn there is an additional pressure upon this ganglia of nerves. Continual pressure here means local irritation and a disturbed condition of the entire body.

Weakness of muscles has also a direct influence on the nerve-power. "When a muscle is unused, the nerve which supplies that muscle is unused, and it suffers arrest of development, or it atrophies. When the nerve atrophies, the reservoir of force in the cortex of the brain undergoes a corresponding change." *

The Brain.—The health of the brain, "depending upon digestion, nutrition, the quantity and quality and speed of the blood sent to the brain,—depending also on physical exercise, fatigue and repose, health and disease, on nerve-action, fluctuation of feeling, exhaustion of nerve-power," is

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* Dr. Bayard Holmes.

intimately connected with the subject of dress. Dr. Richardson says: "If to-morrow women were placed in all respects on an equality with men,—if they were permitted to sit in Parliament, enter the jury-box, or ascend the bench itself,— they would remain subject to superior mental and physical force so long as they crippled their physical, vital, and mental constitution by this one practice of cultivating, under an atrocious view of what is beautiful, a form of body which reduces physical power and thereby deadens mental capacity." Diseases of any kind affect the brain. In admitting patients to the insane asylum, the most careful examination is made, not only into physical condition of the patient, but the physical history of his ancestors. The fact that a remote relative suffered from cancer, for example, weighs in the consideration of the causes producing insanity and the chances of recovery. Such facts make it highly probable that unhygienic dress is one of the factors which drive civilized people to the insane asylum, and give weight to the statement that "corset-wearing has been the cause of more idiotic, crippled, and erratic children than rum-drinking."

The power of the brain depends upon the body not simply because it is through the body that the

volition of the brain is executed: the brain actually depends upon the body for growth. "Brain is evolved from the organization. . . . No perfect brain ever crowns an imperfect body."

References. Dr. D. A. Sargent, *Scribner's Magazine*, February, 1889; Dr. Mary Blake, "Dress and Health;" Thomas Bond, F.R.C.S., *Popular Science Monthly*, December, 1876; Bayard Holmes, M.D., "The Unreasonableness of Modern Dress."

CHAPTER VII.

GYNECOLOGY.

"Accuse not Nature: she hath done her part.
Do thou but thine." —*Milton.*

"Better to hunt in fields for health unbought,
Than fee the doctor for a nauseous draught.
The wise for cure on exercise depend;
God never made his work for man to mend."
—*Dryden.*

In the displacement and diseases of the pelvic organs is found the chief cause of woman's ill-health. The average testimony of physicians in general practice is that more than half of their professional business comes from these maladies. The general practitioner is, however, intrusted with only simple cases. A numerous and busy class of specialists devote themselves exclusively to the study and treatment of the more serious and threatening complications. Not only is the body incapacitated for active life, but the mind is more or less influenced

by diseases of the pelvic organs. Our insane asylums are largely filled by patients whose mental aberrations have originated in these disorders. In view of these distressing facts, one of two conclusions is inevitable: the Creator has failed in His plan for the structure of the female body, or women are at fault in their method of living. So great is the perverseness of mind on this subject, that it is said "every woman by mere structure is a lifelong invalid."

Specialists concur in the opinion that the chief cause of pelvic disturbances is found in woman's method of clothing. They consider it inevitable that a pressure which reduces the waist from three to fifteen inches, and pushes the organs downward and inward, should result in displacement and disease. "Woman's weaknesses" are very justly called "woman's follies."

One specialist says: "I am sure, without being able to prove it, that 90 per cent of the so-called female diseases have their origin in corsets and heavy skirts. They not only depress the pelvic organs by their pressure and weight, but weaken all their normal efforts."

There is no tendency to female weaknesses in animals of the lower order. It is probable that

similar conditions of pressure and bandaging would produce, in them, similar results.

Conjectures on this subject are not sufficient, and statistical demonstrations are accumulating. Dr. Dickinson estimates, by tracings and measurements, the extent of the displacement, caused by the pressure of the corset, on the pelvic floor: "With a corset quite tight, but not so tight as the patient could bear it, as in a new dress or at a ball, this displacement is a third of an inch. The distance seems insignificant, yet it is almost the deepest position to which the structures can be forced by straining down. This forcing downward is sufficient to render the uterine supports tense, and in their taut condition any extra or added stress, like deep breathing, or exertion, or bending, might well be enough to each time slightly overstrain these stretched supports. Slowly and steadily as this force acts, yielding must in time occur." *Engel* states that "in every one of thirty autopsies in which evidences of tight lacing were found, prolapsus was evident in some degree, except where adhesion had prevented it."

The objectionable features of the corset diminish in proportion to its looseness, so far as the thoracic cavity is concerned. If no skirts were hung upon the corset, and if the wearer could always remain

standing, they would also be diminished so far as the pelvic organs are concerned. Granted that the corset is loose, it is made of stiff, unyielding material and furnished with steels and whalebones. It surrounds a part of the body whose tissues consist nine tenths of water. Dr. Kitchen says that these tissues, or even human bone, will shrink away and disappear under the slightest pressure, if only it be continued. The corset rests upon the hips, with no support from the shoulders, and bears the weight of the skirts which are fastened round it. Whether loose or tight, all this weight drags upon the abdomen. With every forward movement of the body the abdomen is distended. The corset, whether loose or tight, does not enlarge to accommodate the distended abdomen. On the contrary, the forward movement which enlarges the abdomen doubles the downward and inward push of the corset. (See Figs. 9 and 10, Chapter III.)

Let the corset-wearer place her hand under the corset with the body erect and then with the body bent forward, and she will feel the increased pressure in the latter position. The school-girl at her desk, the seamstress at the machine—every woman leaning forward, whether wearing a loose or tight

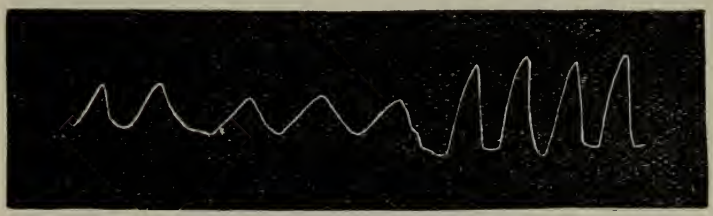
JANE HADING.

corset, presses the abdominal contents downward and inward.

Dr. Kellogg has made very important observations, by means of an air-pessary connected with a tambour, showing the influence of the corset upon the movements of the pelvic organs. These observations and experiments show that "there is a normal movement of the pelvic viscera corresponding to those of respiration," and that "these movements are lessened by constriction of the waist." The movements of the pelvic organs depend upon the action of the diaphragm. "This muscle not being able to descend to the usual degree, there is less movement of the pelvic viscera.

"Fig. 34 exhibits the movements of the pelvic

FIG. 34.



Ordinary. **Forced.**

Respiratory Tracing (Vaginal).

organs produced by respiration, ordinary and forced, in a patient in a horizontal position, and without constricting bands of any sort.

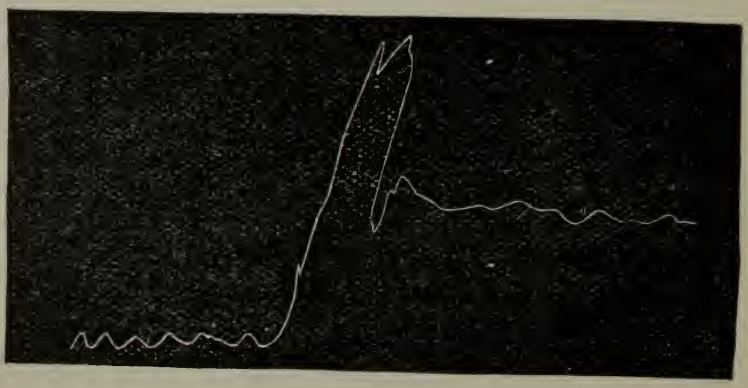
"Fig. 35 shows the movements of the pelvic organs resulting from ordinary and forced respiration, patient horizontal, as before, but wearing a corset moderately tight. The difference between the two tracings is noticeable in that the movement of the

FIG. 35.

Ordinary. Forced.
Vaginal Tracing, with Corset.

pelvic organs is less when the corset is tight than when it is loose. The reason for this is made apparent by the tracing shown in Fig. 36, the first

FIG. 36.



Without Corset. **Tightening Corset.** **With Corset.**
With and without Corset.

part of which shows ordinary respiration without a corset; the last part, ordinary respiration after the corset has been applied. The sudden elevation in the centre of the tracing indicates the downward movement of the pelvic organs occasioned by the tightening of the corset."

Dr. Kellogg estimates that the movement of the uterus up and down in ordinary breathing is from .1 to .3 of an inch. Coughing and deep breathing, straining and similar movements, may increase this to .5 of an inch. The restricted movements of the pelvic organs result in muscular weakness and malnutrition of the pelvic organs.

The pelvic organs are prevented from displacement chiefly by the "round ligaments." These being "muscular structures which, by their nerve-connections, are made to contract at the same time as the abdominal muscles, it is evident that anything which interferes with the free action of the abdominal muscles must equally interfere with the action of the round ligaments. In a woman who has long worn a corset the abdominal walls are lax, soft, and of feeble muscular power. The round ligaments of such a woman must necessarily be in the same condition." In practical experience Dr. Kellogg finds that "these

ligaments which have been in a state of enforced idleness are slender, brittle, and degenerate. They seem to be nothing more than membranous bands."

Again the restricted movement of the diaphragm weakens the abdominal organs because its action is necessary to the circulation of blood in the pelvis. Indeed, "the diaphragm appears to act as a double pump, drawing blood towards the heart at the same time that it draws air into the lungs. Its influence upon the portal circulation and venous system of the pelvis is second only in importance to its respiratory function. When its organs are deprived of this aid to their venous circulation, congestions are a natural and necessary consequence."

With a system of dress which keeps certain muscles of the pelvis continually on the stretch, so that they become non-contractile; with other muscles degenerate from disuse; with the whole muscular system of the abdomen inactive and weak, and all its organs misplaced and in a state of chronic starvation, should it be a subject of wonder that women are afflicted by diseases which require the skill of a surgeon's knife and various appliances of external support? Is it strange that anæsthetics and instruments are needed to alleviate and shorten the pangs of childbirth? The science of gynecology is a

monument to the folly of women. The operating-table and the surgeon's knife are a disgraceful makeshift of the perverse victim. "There is but one remedy and it is surgical—the knife must be applied to the corset-string."

A right understanding of the normal functions of the pelvic organs is important not simply because disturbances of these organs are a source of great suffering, but because it is upon her peculiar physiological functions that physicians base their arguments against co-education and the higher education of woman. It is said that the performance of these physiological functions disqualifies woman for continuous mental and physical labor. The strain and excitement unfit her for the higher duties of motherhood, and the good woman, as the old English sign board painted it, is the woman without a head.

Concerning the physiological functions of woman and the nature and extent of their demands upon her system, we quote from Dr. Chadwick: "It is likewise untrue that the human system is inadequate to allow two functions to go on at the same time. The brain, the kidneys, the stomach, and other organs are known to be generally in active operation at the same time without exhausting the

vital powers. A woman is endowed with additional vigor to meet the requirements of an additional function. As the processes included in this function are constantly going on in the system, remission of mental or physical exercise, during any special week in each month, will have no more effect in reserving of energy for the benefit of other functions than rest during any other week.

"Unfortunately the tendency of civilization is to dwarf the physical development, and to stimulate the mental and emotional powers to such an extent that functions which were designed to operate without disturbance have come to be attended by pain and obscure effects upon remote parts of the body. Girls should have hours when they are expected to run, jump, swim, play ball, and engage in other active games, to shout and laugh, for by all such exercises the muscles are developed and strengthened, the blood is made to circulate freely, and the lungs are fully inflated, so that a full supply of oxygen is obtained, and the effete carbonic acid expelled."

It should be observed that Dr. Chadwick includes jumping among the exercises which legitimately belong to girls. This is quite contrary to the generally received opinion that the structure of woman

makes jumping a dangerous amusement. Even intelligent women believe that the pelvic organs would fall, if put to this test. These organs are firmly secured, by muscles, ligaments, and surrounding organs, and there is no more reason to fear their fall, under proper conditions, than there is to fear prolapsus of the kidneys, liver, or lungs.

It is especially important, in considering these subjects, to remember that the law is that all the processes of normal life are painless. Women usually accept the pangs of maternity as an irrevocable part of the curse pronounced upon Eve. We cannot believe that an arbitrary decree of eternal vengeance thus broods over womanhood. It is not possible that, at a time when mother-care is most needed, the mother should be shut away in darkened seclusion. The sufferings of childbirth, which are chiefly the result of wrong living, may be, to a great extent, abrogated by right living.

This hypothesis is substantiated by the experience of the peasant and the uncivilized mother. Among these classes there is almost no suffering, and no weakness and debility either before or after the birth of children. Science says: "Pain in childbirth is a morbid symptom; it is a perversion of nature caused by modes of living not consistent

with the most healthy condition of the system, and a regimen which would insure a completely healthy condition might be counted upon with certainty to do away with such pain." There is no more direct method of overcoming these evils than through the regimen of exercise and of rational dress.

The penalty of violated law does not break alone on the head of the individual transgressor. Physicians attribute to the dress of mothers, during the antenatal period, the fact that many children are deformed from birth. There is not room for the development of the infant body. A puny, diseased physique; a brain of diminished capacity; a fretful, ignoble spirit; these are the gifts of the corseted mother to her helpless posterity. Mother-love! the woman who is guilty of these crimes has no conception of the true mother-spirit. To loosen the corset or to lay it aside for a period of nine months does not exculpate the mother. It is the habits of the whole life, not the experience of nine months, which determine the dangers of childbearing and to a great extent modify the life of the child, both physically and morally.

The imperative need in overcoming these various evils is a system of clothing which shall neither displace the pelvic organs nor restrain their normal

The dressmaker advises stout women to wear tightly-fitting gowns, the waist having many seams. The artist advises stout women to wear soft, heavy textures falling in large folds which conceal the massive contours. These make this figure of a woman weighing 176 pounds seem slight.

operations, upon whose activity the strength of supporting muscles depends.

Clothing is needed which shall permit the free exercise of the body, for upon physical exercise depend its health and vitality. Every organ shares in the general strength of the body. With physical vigor the sensory system will be held in equilibrium and the processes of nature will go on without friction. An invalid is sometimes so abnormally acute of hearing, that the ticking of a clock, unnoticed in health, becomes a source of pain. This explains that abnormal state of the body in which the ordinary processes of nature become the occasion of suffering.

Freedom and exercise will also strengthen the muscles of the pelvis, so that the birth of a civilized baby will be accomplished with the same ease and safety as is experienced by the savage mother. Exercise is the gospel of a more vigorous life for woman.

It would not be wise to advocate this theory without carefully guarding it from possibility of misconstruction. Unless there can be perfect freedom of clothing and exercise, so that the physical education can be complete, there ought not to be any attempt at higher education. The

brain and the nervous system would be forced to too great a pitch. Under the present *régime* of incorrect dress we believe that exercise, in the gymnasium or in natural labor will be provocative not of good, but of evil. By common consent the only safe course has been adopted: it is not wise to jump, run, row, go up and down stairs, turn a mattress, or lift a heavy weight; especial periods must be observed by physical and mental repose, and motherhood must be followed by weeks of seclusion. This is the penalty exacted by violated physical law.

References. Dr. Robert L. Dickinson, *New York Medical Journal;* Dr. J. H. Kellogg, "Experimental Researches respecting the Relation of Dress to the Pelvic Diseases of Women;" Dr. Chadwick, *North American Review*, Dec., 1882.

CHAPTER VIII.

THE PEDIGREE OF THE CORSET.

"There's nane ever feared that the truth should be heard,
But they whaum the truth wad indict."

THE true historian reads history not as a narrative of events, but in order to ascertain the forces which have produced certain results. Thus the history of the past bears on the intellectual and moral problems of the present. The history of the corset concerns us simply because its relation to moral problems in the past helps us to see its relation to these subjects at the present time. We should study the character of the people among whom it has prevailed, the animus and taste which led to its adoption, the character of those who have in all ages condemned its use. Dr. Sargent says: "In thinking over the origin of this custom and its moral significance, we simply marvel at its prevalence in a civilized community." The degree of lacing in every country is like a barometer, indi-

cating the artistic and moral condition of the epoch. An investigator on this subject states that narrow waists and tight-lacing accompany epochs distinguished for a bad state of public morals or a low ebb of artistic feeling. This seems a sweeping censure to those not familiar with the history of costume, but the archives of dress verify the statement. Everywhere we read the same story. National dress keeps pace with national history. Both begin in simplicity and end in voluptuousness. Tight-lacing has been one of the high-water marks of the self-indulgent period.

A detailed history of the corset, with the attendant social environment, would occupy several volumes and require exhaustive research. In a single chapter it is possible to deal only with periods which are most familiar to the general reader.

The earliest mention of girdling was made by that first dress-reformer, the prophet Isaiah. Israel, grown proud in prosperity, had given herself over to idolatry. Social degradation and anarchy infected the kingdom. Her rulers had become covetous and oppressive; her daughters haughty, wanton, extravagant. Isaiah saw in this corruption the signs of internal weakness which would make apostate

Israel an easy prey to the Assyrian host. His judgments are especially directed against the vanity and extravagant dress of the daughters of Zion. He prophesied of a time when instead of a stomacher there should be a girding of sackcloth.

An artificial shape of the waist among early Egyptian women, accompanying an age of extravagance, is shown by pictorial authority (Fig. 37).

According to the research of Rousseau and others, compression of the body was not practised by the Spartans. Xenophon and Plutarch say that the Lycurgan system considered women as a part of the state and placed them under training hardly less rigorous than the men.

There is no evidence of waist stricture in the succeeding period, that of the worship of the beautiful. In the days of unbridled extravagance which preceded the destruction of the Greek republics, patriotism and moral rectitude were forgotten. The poor looked with envy and hatred on the luxury of the rich. Love of money, frivolity, and personal vanity were besetting sins. The custom of bandaging originated with the courtesans. Alexis of Athens gives a description of the bandaging used to correct or conceal the faults in form of the young girls whom the courtesans took to educate for their

unholy work. The custom, originating in this lowest order of society, was adopted by women of rank.

FIG. 37.—Egyptian Lady.

Hippocrates, a Greek physician, called the Father of Medicine, censured the ladies of Cos for too

tightly compressing their ribs and thus interfering with their breathing powers; and Aristophanes ridicules Cenesias for wearing busks of linden-wood.

The Romans, in their turn, took up the fashion of bandaging. The pressure of the Roman fasciæ differed, however, from that of the modern corset. Their pressure was exerted almost entirely on the thorax; it stopped below the breast and left the abdomen free. The object was to increase the size of the hips by contrast with a narrow chest. Galien, the most eminent physician and one of the most learned men of his age, condemns this bandaging in his "Causes of Disease." He says that girls were from infancy strongly bound around the shoulder-blades and about the chest. The pressure being often unequal, the thorax was pushed prominently in front, or the spinal column became gibbous. Often the back was, so to speak, broken and drawn aside in such a way that one shoulder was raised, projected, and in every way larger, while the other was flattened and weakened. The *zona*, *fascia strophinum*, and various other bandages were also used to suppress embonpoint and fulness of bust, which were considered deformities. The condition of society in the period of declining republicanism

was one which always imperils a people. Roman wealth had become immense, extravagant living had taken the place of early simplicity, religion was ridiculed, men and women gave themselves up to social excesses. Curious passages from old writers reproach the ancient coquetry which resorted to bandaging. Martial satirized the fashion A.D. 43. A historian of the Emperor Antony mentions that he wore corsets to suppress obesity.

There are no evidences of waist constricture during the early Middle Ages. About the eleventh century the power of fashion began to be felt, extravagant dress and tight bandaging increasing continually. The corset of the twelfth century was a target for caricature, a French artist represented the devil in the dress and corset of a fashionable woman. In the fourteenth century "women painted, popped, and farded themselves, pulled the hair off the forehead because high foreheads were thought beautiful, and washed the hair in wine to change the color." They also desired "a slender and fair-shapen body." In the fifteenth century came the corsets "framed with steel and fortified with busks."

We ought to find in that liberty of thought which produced in Germany a Reformation and in Italy a Renaissance a corresponding reaction in dress.

A scarf worn loosely about the shoulders and knotted "à la Charlotte Corday" is suited to slight figures. The Marie Antoinette fichu is a favorite with artists. It preserves the outline of the figure and gives an appearance of oneness between the upper and lower parts of the body.

Mr. Heath says that, "in the western countries of Europe thoroughly leavened by these influences, the waist had ample scope and dress was open to no objection on the score of health or decency."

The excessive lacing of the sixteenth century, practised in England, France, Austria, and Italy, which rendered the form "completely insectile," is the climax in the ignoble history of the corset. It is peculiarly significant that Catherine de' Medici introduced this form of lacing into France. "At that time a thirteen-inch waist measurement was the standard required by fashion. No woman was considered the proper figure whose waist could not be spanned by the two hands. To produce this result a strong, rigid corset was worn day and night until the waist was laced down to the required size. Over this corset was placed a steel apparatus which reached from hip to throat" (Fig. 38). Bulwer called the corset of Catherine de' Medici "the whalebone prison" (Fig. 39).

The portrait of Henry III., son of Catherine de' Medici, shows that tight-lacing was practised by men (Fig. 40).

The history of France in the days which preceded and followed the French Revolution is mirrored in the dress of these times. Those who up-

hold the corset argue its morality because "the only period in which its general use appears to have been discontinued are the few years which immedi-

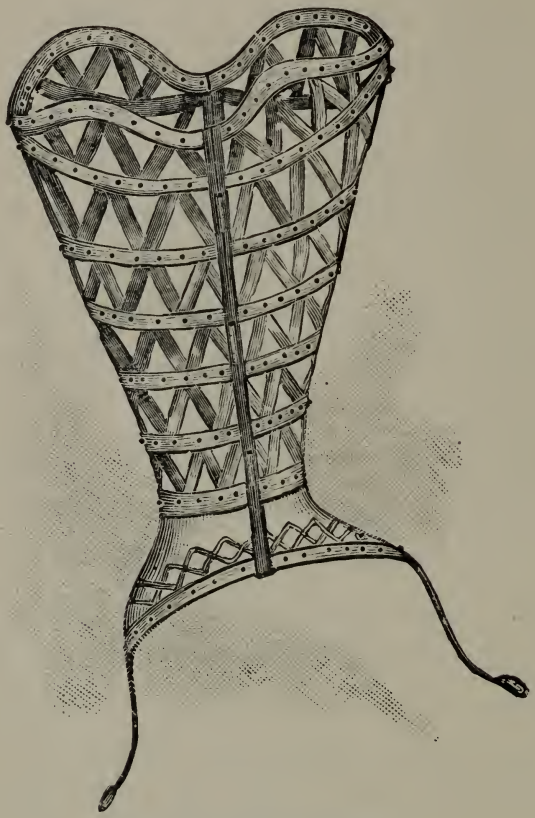


FIG. 38.—Steel Apparatus.

ately followed the French Revolution, when the general licentiousness of manners and morals was accompanied by a corresponding indecency in dress." Such a statement is a misrepresentation

of history. The French Revolution grew out of the selfishness and extravagance of the privileged classes. There had been years of wanton splendor in her palaces, and the price was an impoverished and discontented people. Among the frivolities of

FIG. 39.

the eighteenth century were the powdered hair and the "patch-fashion." Ladies carried bits of court-plaster in patch-boxes and stopped even in the street to glance at the mirror in the lid of the patch-box and replace any which might have fallen. As the climax approached, gayety and frivolity increased. "Every one was dressed as if

for a fancy ball that was never to leave off. The executioner was required to officiate at the gallows

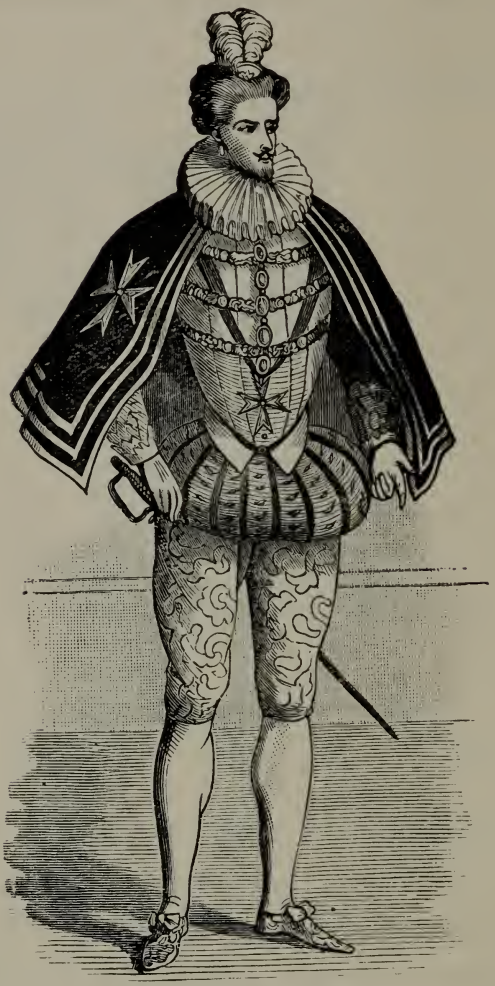


FIG. 40.—Henry III.

and wheel frizzled, powdered, in a gold-lace coat, pumps, and white silk stockings." (Carlyle.) The

Medici corset was still worn. Rousseau said of the tight dress of this period: "I cannot but think that this abuse, pushed in England to an inconceivable point, will in the end lead to the degeneracy of the race."

When the reaction against centuries of civil and ecclesiastical oppression began to be felt, the desire for liberty showed itself even in dress. It was during the days which preceded the Revolution that women discarded corsets and the frivolities of fashion. A French writer says of this period:

"Gold lace, embroidery, and curls were discarded for plain brown coats and hair cut straight. Said one, 'These coats predict an outbreak for liberty.' So strong was the reaction in favor of simplicity that men buttoned their coats to conceal the stars and decorations which they had formerly been proud to exhibit."

Racinet attributes the remarkable change in costume to the influence of physicians during the latter part of the century. Others attribute it to the teaching of Rousseau. With all his foibles of character, Rousseau was a reformer and a republican. So great was his influence over the women of that generation that mothers consented to suckle their own offspring, a duty which they had before

despised. Rousseau's influence was felt even in England. Fairholt says of this time: "The walking and evening dresses of ladies in 1789 are tasteful and free of all extravagance, and have a modesty and simplicity worthy of praise. Nothing was used in the way of support except a slight stay of dimity, ticking, or nankeen, innocent of busk or whalebone." Stanhope says: "Towards the Peace of 1783 there began to spread among both sexes a taste for greater plainness and simplicity in attire." Joseph II. of Austria, a zealous though injudicious reformer, made a law confining the use of corsets to women of ill-fame. Such an act was in sympathy with his enlightened policy of government.

The Revolution of France levelled all class distinctions. Social equality was emphasized even in the fashions of 1790. It was expedient for the wealthy to dress simply and to mingle freely with other classes. Gowns of silk and of white muslin were proscribed, because they savored of the hated aristocracy. During this period certain artists, of whom David was the leader, conceived the idea that the Greek and Roman were the types which men and women ought to reproduce in the French republic. David is described as an honest and disinterested man carried away by the flood of

enthusiasm which made all the intellect of France believe in a new era of equality. The general adoption of Greek and Roman costumes dates from the Directory. Attempts at this style before that period were isolated and confined to classes representing art. (Racinet.)

But the Revolution of '93, so grand in its beginning, never came to full fruition. In the hands of terrorists it was degraded into anarchy, and then lapsed into imperialism. The reaction of the 9th Thermidor was followed by a reaction in dress; and when the terror was over French society abandoned itself to pleasure and gayety. French ladies who had taken refuge in England during the Revolution returned and reinstated the fashions. They brought back all the extravagant habits of living to which they had become accustomed in England. (Racinet.) The *nouveaux riches* and other upstarts indulged in the extremes of prodigality and fashion. A combination of Greco-mania and Anglomania produced the exaggerations of costume known as *les merveilleuses* and *les incroyables.* The corruption of the heart was manifest in this dress. During the Directory "*on déliberait sur le costume à la sauvage,*" and "nudity was on the point of becoming the fashion." The shoulders and

neck were bared; jewelled thongs bound the legs, and gold rings decked the toes. A lighter corset, better adapted to the "imitation Greek" dress, took the place of that worn before the Revolution.

After Napoleon's elevation to imperial power he adopted the most rigorous system of court-etiquette. The splendor of the new *régime* helped to secure its tenure of power. An attempt to resurrect the Medici corset was made by certain leaders of Paris fashion, but was opposed by the empress. Napoleon said concerning the revival of tight lacing in 1810: "This wear, born of coquetry and bad taste, which murders children and ill-treats their offspring, tells of frivolous taste and warns me of approaching decadence." Bouchant, a writer of that period, says: "Stays are composed not of whalebone, indeed, or hardened leather, but of bars of iron and steel from three to four inches broad and many of them not less than eighteen inches in length," and that "it was by no means uncommon to see a mother lay her daughter down upon the carpet, and, placing her foot upon her back, break half a dozen laces in tightening her." The following object-lesson was given by Cuvier to a young lady addicted to the lacing habit: "Walking with Cuvier one day in the Jardin des

Plantes, she admired a plant whose elegant stem was adorned with a bloom of lovely color. Looking at her thin, pale face, he replied: 'You were like this flower once; to-morrow it will be as you are now.' Next day Cuvier led the young lady to the same spot and bade her look at the flower. It was drooping and dying. She asked the cause. 'This plant,' said he, 'is an image of yourself. I will show you what is the matter with it.' And the great naturalist pointed out to her a cord which was bound tightly around the stem. 'You are fading away exactly in the same manner, under the compression of your corset, and you are losing by degrees all your youthful charms, just because you have not the courage to resist this dangerous fashion."

The corset was introduced into England by the Normans in the twelfth century. The earliest corsets are thought to have been comparatively harmless, made of firm, light material. By the fifteenth century they were made of steel and had busks of wood. A physician of this period quaintly describes their injury: "They purchase a stinking breath . . . and open a door into consumptions." Mediæval romances are full of allusions to the slender waists of women, which were then con-

sidered a criterion of elegance. Chaucer described the lady of his period:

"Her body was gentil and small as a weasel."

He referred to the "middle small" and to "wand-like smallness," and denounced in uncompromising terms the follies of his generation.

The excessive use of the corset in England characterized especially the reign of Queen Elizabeth. The body was incased in a stiff armor, and "both men and women squeezed in their waists, and both swelled out their garments below" (Fig. 41). This golden age of literature was the dark age of morality so far as the court was concerned. It was a time of gastronomic indulgence, gross profanity, and unlimited folly in dress. The ruffs for the neck were stiffened by metal wires and by colored starch. These were so immense that a spoon two feet long was necessary to convey food safely to the mouth. The hair was colored in divers hues or was shaved off to accommodate wigs of various colors. Children blessed with fine heads of hair were lured away and shorn of their locks; even the grave was invaded and the dead robbed. The despotism of Elizabeth's rule and that of her successors culminated in revolution. The Puritans

made bitter warfare on "devilish fashions." No one can read the history of those days without seeing that their opposition to the follies of dress was a sincere protest of the conscience, not the bitterness of political rivalry. Green says of the Puritan: "His life was orderly, methodical, sparing

FIG. 41.—Lady of the Court of Queen Elizabeth.

of diet and of self indulgence. The new sobriety marked itself even in his change of dress. The loss of color and variety in costume reflected, no doubt, a loss of color and variety in life itself; but it was a loss compensated by solid gains.

Greatest among these, perhaps, was the new conception of social equality. Their common call, their common brotherhood in Christ, annihilated in the mind of the Puritans that overpowering sense of social distinction which characterized the age of Elizabeth. The meanest peasant felt himself ennobled as a child of God."

The iconoclasm of the Puritans destroyed even art, which to them breathed of vanity. The women were forbidden to wear lace, jewels, or braided hair. Starch was denounced as "devil's liquor." The shorn head and the high, stiff hat of the Puritan had not the picturesque effect of curling locks and plumed beavers. Scriptural texts do not make a graceful design for embroidery, but Puritan conscience and Puritan taste banished the wheel-farthingale and the stiff ruff, and increased the girth of the waist (Fig. 42).

In an ideal republic we ought to find no accumulations of wealth and no social distinctions, out of which frivolities of dress always issue. Poverty and devotion to the common good distinguished that brave band which endured the hardships and perils of a New World in the name of liberty and freedom to worship God. As years passed, increasing wealth gave to the Tory element

the power of a privileged class, and the social customs of the Old World were carefully reproduced in the New. The climax of frivolity, so far as the corset is concerned, was reached in the early part of this century. Goodman, of Boston, writing of

From "The Art of Beauty."—Harper & Brothers.

FIG. 42.—Puritan Lady.

the year 1829, speaks of "a not unusual practice of wearing the corset at night, tightening it when lying down and again in the morning when rising. The custom was imitated by servants, who wore such busks as to prevent sufficient stooping or

crouching to put on the kettle, or to place it on any lower level than a bench." We hear fabulous stories of the strength and endurance of our grandmothers. There were doubtless grandmothers who could spin, brew, delve, and rear large families with a vigor unknown to the present generation. There were also grandmothers who wore very tight, scant gowns and very thin, narrow, high-heeled shoes. The corset of our grandmothers was made of stiff material and had busks of hickory-wood. The corsets of the present day are more flexible and therefore less objectionable; yet their use is becoming more general. The cheapness of the corset puts it in the reach of every class, and the yearly consumption in America, not including those which are imported, amounts to 60,000,000. Never was the glove-fitting bodice, without wrinkle or crease, more imperatively demanded. We are informed of English girls who, at night, bind the body tightly with linen bandages several yards in length, that the figure may not lose the delicate proportions gained during the day. It is said that ultra-fashionable girls of America wear corsets at night.

There has always been a marked difference between the dress of the city and that of the country.

When folly has reigned at court, simplicity has characterized rustic life. The same contrast still prevails. In cities and large towns tight lacing is universal. The styles set by fashionable society are carefully followed by the middle classes, the housemaid, and the scullion. In rural districts the lacing spirit is comparatively unknown. The corset gives a stiff but not often a deformed appearance to the figure. It is inevitable that lacing will increase in the country. The publication and circulation of journals of fashion, the education in forms of conventional dress afforded by the influx of the city boarder, the opportunity which easy means of travelling give the villager to visit large towns, the zeal of the manufacturer in advertising and selling his wares, the technical education of the dressmaking craft—all tend to the steady increase of fashionable dress and to the tightening of the corset-lace.

Our missionaries are carrying the lacing custom to benighted heathen lands. A missionary returning from India said: "The first thing which the heathen convert desires is, not a Bible, but a corset." The educated Indian squaw of our own land is born again into the kingdom of the corset and bustle. At a recent missionary meeting an

Indian woman who had attempted the conversion of her people rehearsed the needs of her nation in a dress tight and stiff with a corset. The Africans, especially distinguished as imitators, copy with painful exaggerations the small waists of "quality folks."

Shall we argué that because this is the most moral, intellectual, and Christian age which the world has yet seen, and the one that most universally adopts the corset, therefore lacing is moral, respectable, artistic? On this ground we may argue the morality of alcohol, since no other age has consumed so much per capita. On this ground we may argue the morality of nicotine, whose use has never been so general, or of gambling, which is a national vice. These evils are not the outgrowth of a moral, intellectual, and Christian civilization, but the evidence that we have not applied the laws of Christian ethics to practical life.

What lesson does the history of the corset offer this generation? Simply this: its general use is one of many indications that there has developed in our civilization a tendency to that luxurious living which is cursed by Heaven's decree. Tight lacing is the worst form of the fashionable dress,

which always marks a period of selfish luxury and social oppression. And now, "while Tiffany is selling silver stewpans for millionaires to cook their breakfast in, thousands of women are compelled by competition to work fifteen hours a day for fifty cents." The strikes and labor agitations which follow in the wake of starvation wages and unjust competition will continue until, in the bitterness of the conflict, we are called back to an era of simplicity, justice, and brotherly love. Co-operation, not competition, should be the law of the industrial world.

Another threatening cloud is the rapid increase of an alien population and the slow growth of our American people. Family cares are irksome to the pleasure-loving American, just as they were to pleasure-loving Rome and pleasure loving France, and we are rapidly coming under the dominion of an uneducated, unsympathetic foreign power.

Is the artistic feeling of this epoch at a low ebb? The present luxuriant efflorescence has been crushingly called "the renaissance of barbarism." "Chromo civilization," "greedy barbarism," "vulgar display," "gingerbread aristocracy," are terms used to represent the tinsel which has usurped the place of simple and genuine art.

Is there a low state of public morals? The blunting of the moral perceptions is shown in our food adulteration, our business monopolies, the speculations of trade, our sweating systems, our political knavery. Moral leprosy is not confined to the masses; it taints polite society and even lurks in the Church itself and among the eminently respectable. So keenly is the need of reform in this direction felt that societies like the White Cross Army are formed to train the conscience of our youth, and social purity is presented as a distinct department of ethical culture.

Is the use of the corset inherently immoral? The corset and the tailor-made waist, which boldly define and exaggerate physical peculiarities, repel a refined sensibility. When the skin-tight bodice first came into vogue, women shrunk from going in public thoroughfares without a shawl or wrap. Gradually they became habituated to the defining lines of corset and bodice. Could we look at the glove-fitting corset-waist with unaccustomed eyes, we should share the "horrified surprise of the old-fashioned spinster when it was suggested that she might go out without a wrap: 'Would you have me go out in my figger?'"

Again, the corset defies those great laws of health

which the Creator has ordained for our well-being. When Christian women learn that the religion of the body is as sacred as that of the spirit, it will be considered a sacrilege to wear any form of dress which interferes with the physical economy.

References. Bouvier's "Études Historiques et Médicales sur l'Usage des Corsets;" "Fashions in Waists," by Richard Heath, published in the *Magazine of Art;* Mrs. Stone's "Chronicles of Fashion;" "Strutt on English Dress;" "Le Costume Historique," Racinet.

CHAPTER IX.

UNCONSCIOUS SUICIDE.

"Evil is wrought by want of thought
As well as want of heart."—*Hood.*

"My people are destroyed for lack of knowledge."—*Hosea.*

With all this accumulation of evidence concerning the injury done by the corset, no woman has ever been found willing to acknowledge undue pressure. Physicians who have had years of professional experience with corset-wearers declare that they have never heard an admission of lacing. Women whose diminutive waists, elevated shoulders, and ample abdomen tell the story of corset-compression, and whose labored breath is seen in the violent heaving of the chest, lift up holy hands of horror against the practice. Very good women wear very tight clothing without being conscious of offence.

We cannot doubt that many women are conscien-

tious in their protestations of innocence. Self-deception is always easy, but in the case of tight clothing there are many facts which render it particularly easy. Compression usually begins in childhood, when the bones are pliable, and the contraction is so gradual as to be imperceptible.

The muscles of the waist become so weakened by disuse that they are unable to sustain the body without help, and a corset is more comfortable because it affords a means of support to the enfeebled muscles.

The contents of the body are gases, fluids, and yielding substances, which can be displaced for a moment, by effort, and the clothing may seem loose when the breath is held in.

Nature has no mercy for the transgressor even though he may be ignorant of wrong-doing. Unconscious suicide is no less fatal than that of deliberate purpose. The invisible microbes of sewer-gas poison as fatally as though they were perceptible to the sense. The injury of tight clothing is just as great to the woman unconscious of pressure as to the poor fool who draws her strings by the bedpost. The "loose corset" is the great hindrance to the abolishment of this article of dress. It is the means by which the devil transforms him-

self into an angel of light. The corset-curse among women is more insidious than the drink-curse among men. Both sins seek to extenuate themselves on the plea of moderation. No woman is able to see the hidden line where moderate lacing develops into tight lacing; just as no man can see where moderate drinking becomes hard drinking. Total abstinence from both sins is the only safe ground. A woman can no more be trusted with a corset than a drunkard with a glass of whiskey.

Two classes of women are represented among those who unconsciously wear too tight clothing. One class is blind because it will not see. For this class there is no help. A spirit of teachableness and dispassionate research is absolutely necessary to progress in every direction. The I-thank-Thee-that-I-am-not-as-other-men spirit is opposed to enlightenment.

For those who are in "honest doubt" there are many infallible tests by which it can be ascertained if the form has been altered or if the clothing is too tight. The pressure of the clothing *cannot* be ascertained by comparing the measurements of the body with and without the corset, for—

(*a*) The corset is made of thick, bulky material and takes up several inches of space. It is worn by

the excessively thin for the very purpose of making the figure larger.

(*b*) The fact that the corset-string is "never drawn" proves nothing. The corset may be several inches too small when the lace is not touched. The clothing may be too tight when no corset is worn.

(*c*) The feeling of the wearer cannot be trusted to give the criterion of pressure. The same amount of pressure is not equally injurious to all. In some the bones are strong and give greater resistance, or the organs are less predisposed to displacement and disease.

(*d*) The fact that the hand can be thrust up between the corset and the body, or that one can "squirm" and "turn around" in these articles, is no criterion. "Woman is the prodigy of contraction: with her stays bisecting her and lacerating her skin, she can for a moment make herself feel slack." The hand can be readily placed under a tight corset when the diaphragm is relaxed and the air is expelled from the lungs.

Those who honestly desire to ascertain whether the clothing is tight or loose should undertake the investigation with absolute sincerity. Examine the method of breathing: is there violent and quick

motion of the chest? Find out the location of the diaphragm: has it any action? If the chest-breathing is violent and the diaphragm inactive, the clothing is too tight. Do not be deceived in the action of the diaphragm. It may be possible for you to force the action of the abdomen while the diaphragm is torpid. It is possible to move the abdominal muscles even while holding the breath.

Is your clothing so loose that the lower part of the chest can be as thoroughly expanded with the clothing on as when the garments are removed at night? If not, it is too tight.

Do you, in lying down for a few moments of rest, find it more agreeable to unfasten the clothing about the waist? Is it easier to put on your bonnet and veil before putting on the bodice of your dress? The clothing is too tight.

Can you, by taking a deep inspiration, expand the chest more than one quarter or one half an inch? You ought to be able to expand it from three to five inches. "A young woman who was formerly addicted to tight lacing, after laying aside her corset and cultivating breathing for two years, was able to expand her waist six and one-half inches. A woman whose usual dress will not allow her to expand her waist to at least three inches is un-

This study is for the benefit of the round-shouldered, and every conventionally dressed woman is more or less round-shouldered. Drapery falling from the point indicated in the illustration lessens the appearance of spinal curvature. The model may serve as a basis for varied applications.

questionably suffering injury from the restriction of her respiration."*

Dr. Mary Wood-Allen gives these tests: can you, while the lungs are fully inflated, fasten the dress with one hand? The circumference of the waist should measure two fifths of the height.

The only way in which we can be made conscious of the power of a habit is to attempt to break from it. Lay aside the corset. Do you feel the need of its support? Do you feel like falling to pieces? Then your corsets were too tight. The muscles are atrophied from disuse. There is no more reason for a woman to need the support of a corset than for a man to need it. The Creator has made the female frame of the lower animals capable of self-support. It is unreasonable to believe that His beneficent plan of self-support excludes only civilized women.

Many women say, in vindication of the corset, "My physician recommended it." These are always abnormal cases in which the invalid was recommended to use the corset as a kind of bandage. There is no record of an invalid man recommended by his physician to resort to the corset as a bandage. With all respect to the medical profession, we must admit that there is

* Dr. J. H. Kellogg.

general apathy among physicians on the subject of woman's dress. This apathy may result from ignorance. Investigations on the injury of tight clothing are very recent, and all physicians do not keep up with the times. They go on in the old stereotyped way. The indifference of physicians may be also a matter of policy. The fair patient would be quite infuriated at the mention of tight corsets. Advice would be idle and expensive. Physicians cannot afford, by useless honesty, to lose their best customers. We may expect that physicians will give greater attention to the subject, as the investigations of science make its evils apparent. Many physicians absolutely refuse to undertake the case of a patient who will not change her method of dress. A leading physician of New York gives careful direction as to the clothing of his patients.

Much mischief is done through the false teaching that a corset or belt is necessary for support, especially for women engaged in heavy housework. It is argued that men use a bandage for the purpose of support in running and performing athletic feats. Concerning this fallacy that a belt gives support we quote from Dr. Benjamin Ward Richardson, an eminent English physician. He

says: "Boys who are about to run in races or to leap, put on the belt and strap it tightly, in order, as they say, to hold in their wind or breath. Workmen who are about to lift weights or carry heavy burdens put on a belt for the same purpose, their declaration being that it gives support. Actually there is not a figment of truth in this belief. It is the expression of a fashion, and nothing more. The belt impedes respiration, compresses the abdominal muscles, compresses the muscles of the back, subjecting them to unnecessary friction, and actually impedes motion. No boy would think of putting a belt tightly round the body of his pony if he wished it to win a race or to leap a hurdle; no workingman would put a belt tightly round the body of a horse to make it pull with greater facility a load which it was drawing. I had a workman once in my employ who would undertake no vigorous effort until he had tightened his belt. Once I got him to test what he could lift with and without the belt, and he was obliged himself to admit that he could do more without it than with it. That is what ladies say about corsets." Dr. Richardson further says that the use of the belt among men is a frequent cause of hernia or rupture: "I have seen professionally several instances of this occurrence

in boys and among workmen who wear belts; this accidental disease is so common that it is the rule rather than the exception to find it present."

In the matter of improved clothing for women we need the sympathy and co-operation of men. A women may be deterred from adopting rational dress because a husband, brother, or son "wants her to look like other ladies."

Speak to a man on this subject: he smiles condescendingly and says, "Woman's dress? Yes, I am interested in that," and he makes a facetious comment on dressmakers' bills and the pocket-book. O fools and blind! if it were only through the paltry dollar that woman's dress concerns man we would not attempt to iterate and reiterate the hackneyed theme. Woman's dress touches man more vitally than through the pocket-book. It concerns his muscle, his sinew, his blood, his brain. The physical degeneracy of woman is reproduced in her sons as well as in her daughters.

"The woman's cause is man's: they rise or sink
Together, dwarfed or godlike, bond or free."

CHAPTER X.

PRACTICAL SUGGESTIONS.

"Deep-rooted customs, though wrong, are not easily altered; but it is the duty of all to be firm in that which they certainly know is right for them."—*John Woolman.*

"Hurt not your conscience with any known sin."
—*S. Rutherford.*

It is useless to condemn the evils of modern dress unless we can suggest a way to correct them. To this practical phase of the subject much earnest thought has been given during the last twenty years. Individual attempts to improve dress were made long before organized effort took the matter in hand. Of all dress-protestants none have been more heroic than the Bloomers. Their costume met only partially the demands of hygiene and utterly ignored the laws of beauty, and has made the subject of rational dress a byword and a hissing. Yet we cannot say that the Bloomer episode has been without beneficent results. Every reform has

been marked by periods of apparent failure, and through failure comes the practical experience which is necessary before success can be achieved. The Bloomer episode called universal attention to the great need of rational dress, and it showed that changes must be made in such a way as to do no violence to the prejudices of society. It is now understood that radical changes must begin with the "foundation garments," which are purely utilitarian, and that gowns must be constructed on artistic principles: these are never at variance with hygienic principles.

Inspired by an address from Miss Elizabeth Stuart Phelps, the New England Woman's Club in 1873 made the first permanent step towards improved dress. A committee from this club was appointed to consider the errors of dress and to devise methods by which they might be overcome. The committee advocated an entire reconstruction of underclothing; it believed that the time would come when radical changes could be made also in the externals of dress, but that for the present there should be only a modification of prevailing customs. Lectures by well-known and experienced female physicians were given under the auspices of the association, and underclothing constructed in ac-

cordance with hygienic principles was made and sold. As a substitute for the corset the association offered health waists which fit over the shoulders and fasten in front with buttons. Nether garments were set on yokes instead of bands, and fastened to the waist, below the so-called waist-line, by means of buttons. The advantage of yokes over bands lies in the fact that the yoke fits over and rests on the hip-bones. There is therefore no cutting of bands and no pressure on the pelvic organs. This system of clothing commended itself to the good sense of the more intelligent; and conservative women of the present time, who are unwilling to make more radical changes, find in it a convenient and reasonable solution of difficulties. The interest aroused by the New England Club has been steadily increasing with every year. There is now no large city in America which has not its depot for modern underclothing. The Woman's Christian Temperance Union and other philanthropic associations give the subject an important place in their work. Chautauqua, the educator of the masses, includes it in her lecture-courses. The press commends or denounces according to the light of the compiler. Woman's clubs have been organized, in various parts of

the country, whose sole purpose is the promotion of physical culture and correct dress.

For an intelligent understanding of rational clothing it is necessary to know the principles which govern hygienic dress and the methods by which its requirements may be realized. The object is to sheathe the body in such a way as to avoid pressure and give muscular freedom, to secure equal distribution of weight and heat, and, in cold climates, to get the maximum of warmth with the minimum of weight. The first step to be taken is the abolishment of the corset. This is the most objectionable feature of civilized dress, and one which lies at the foundation of other errors. The removal of the corset means more than giving up articles which bear that name. It means the removal of every waist and waist-band which restricts the free action of any organ of the body. We must not be deceived by the misnamed "health corset," nor by the beguiling "Delsartean corset;" a health corset is impossible, and to associate the noble name of Delsarte with a garment of this kind is simply a base travesty of our modern system of advertising. The corset includes also the thick, heavily corded waists which are worn by young girls; they are incipient corsets. A woman may be "laced" in

fact though not in name, when she does not wear corsets. The bodice, snugly fitted and thoroughly boned, has the same effect, both in appearance and in result, as that produced by the glove-fitting corset. "Well-made dresses" contain quite as many or even more bones than a corset; the only advantage over this instrument is in the absence of the steel. These gowns are often so tight that a buttoner is required to fasten the bodice. The danger of whalebones is subtle. They interfere with the flexible movement of the waist, and anything that interferes with graceful movement, which is easy movement, is unhygienic. The only sure foundation is reached when we recognize the beauty of a supple body. When this is seen, any lingering penchant for a whalebone will be entirely removed. The destruction of the corset must go to the roots, branch, and remotest twig. If so much as a mustard-seed remain, it will grow again.

Next, in order of injury are long, heavy skirts and the tight bands by which they are hung to the body. The weight of ordinary dress-skirts, with facings, linings, stiffenings, draperies, and trimmings, amounts to many pounds. A bead-trimmed gown, weighed for a reporter, "exceeded the maximum of that allowed our soldiers in the late war, their

accoutrements, ammunition, and all." Besides the dress-skirt there is the weight of starched and flannel petticoats, which must be pushed forward and dragged from behind with every advancing step. A large amount of vital force is exhausted in the mere effort of carrying this load, and every activity of life is made difficult. Skirts should be modified or abolished, as will be described hereafter.

Sanitarians have been divided as to how much of the weight of clothing should be borne by the shoulders, and how much by the pelvic bones. It is now taught that there should be very little weight to carry, and that this weight should be distributed over the entire body. The shoulders bear their part, the arms bear their part, the sides, hips, and legs their part. In abnormal cases, where there is weakness of lungs and spine, the greater weight must sometimes be put on the pelvic bones; and when the organs of the pelvis are weak, the shoulders must take the greater burden. These are, however, exceptional cases. On the matter of uniform support there must be no compromise. Shoulder-straps are a compromise. They concentrate the weight of clothing on the shoulders, pull them over, and contract the chest. Sus-

DESIGN FOR HOUSE OR STREET DRESS.

The characteristic feature is the parallelism of the lines of the neck and girdle. The sleeves follow the lines of the waist.

penders are an objectionable feature in the clothing of men; yet shoulder-straps cannot with skirts serve the purpose which suspenders do with trousers, because trousers are partially supported by the legs and consequently less weight comes on the shoulders. Neither is there any way of fastening skirts to the bodice by "large hooks and eyes," as mantua-makers would have us believe. Uniform support can only be secured by having nether garments continuous with upper garments.

The first garment to be worn is the "union suit," of elastic weave, which the market furnishes in every grade, texture, and price. The union suit reaches from neck to ankle, clothing each leg separately, and clings to the body while giving with its movements. If greater warmth is required, a woven vest may be worn over the combination suit, in lieu of a waist, and knee or ankle-length equestrians may be added to the nether garments. The color is a matter of individual fancy. White, or the natural color of the wool, is more wholesome for the garment which comes next to the body. Black is less conspicuous, and for this reason is usually preferred for the outer garment. There are several advantages in woven garments: the clinging quality helps to keep them in place; their

elasticity prevents any stiffness in the movements of the body; there is no weight of unnecessary material; there is no annoyance and fatigue in having garments cut and made at home; there are no ethical difficulties about buying ready-made clothing.

In the mechanical adaptation of rational underclothing it is not possible to prescribe any regulation method which shall in every particular meet the taste and need of every individual. Common-sense must be used, and minor changes be made to suit the idiosyncrasies of the wearer. If the need of firmer support is felt than can be obtained from woven garments, we have the Flynt, Bates, Equipoise, and Emancipation waists. They should always be used without whalebones, and so loose as to allow the fullest respiration. Others prefer to wear over the union suit a combination of waist and drawers like the Bates chemiloon or the Jenness Miller chemilette. All these garments embody the principles of correct dress.

It is sometimes asserted that petticoats are abolished by the modern dress-crusader. As warmth giving garments they are abolished. The flannel petticoat of sacred memory, the balmoral, and the starched muslin petticoat are not now

recognized. So long, however, as women wear gowns, something of the nature of a petticoat must be worn. The skirt of a gown cannot be lined without violating æsthetic principles, and without a lining some kind of foundation is necessary.

Various garments are substituted for the old form of petticoat. Mrs. Jenness Miller advocates the divided skirt, which resembles full Turkish drawers. It has the appearance of a petticoat, but, as each leg is clothed separately, it does not require to be held up, like the petticoat, and is not so easily bedraggled. Mrs. Miller also advocates the gown form; this is a lining cut after the princess style, to which the gown is attached. Others wear the dress form; this is a skirt attached to a sleeveless waist. These garments should be made invariably of light-weight material, and so short as to escape mud and dirt. Many modifications can be made in the gown. Materials of heavy weight, deep facings, canvas interlinings, and elaborate draperies should be carefully avoided. The skirt and waist of the gown should be in one piece, or, if separate, the skirt should be sewed to a sleeveless lining.

The question of supporting the hose is really the most difficult problem of rational dress. A

garter of any material, tight enough to keep the stocking snugly in place, interferes seriously with the circulation of the blood. A harness worn on the shoulders distorts the shoulders and contracts the chest. Side-straps fastened to a waist cause a perceptible traction. The only entirely satisfactory method is to have stockings and drawers woven so that they are continuous. This effect can be approximated by sewing the hose to the knee-length equestrian or to the trouser. Others wear boys' socks in place of long hose. Again, stockings worn over wool underclothing are partially sustained by their clinging quality and often require no support, or a safety-pin attaching them to the union suit is sufficient. The least objectionable garter is the duplex spiral spring.

There is great prejudice on the part of women about adopting bifurcated underclothing. It seems a prerogative of the sterner sex. The distinction of "trousered and untrousered" as differentiating sex is, however, comparatively recent. Originally both men and women wore skirts, and they are still worn by men of the Orient. The adoption of close fitting "breechen" met with great condemnation in England, and was even a subject of legislation. It is to be hoped that the prejudice against divided

underclothing may be in time overcome. The fact that it is used by female equestrians and bicyclists ought to disarm prejudice. The advantages are so obvious that they hardly need recapitulation : the weight and clumsiness of petticoats is avoided ; perfect freedom of movement is gained ; there is less exposure to cold and dampness; and the draperies of the gown fall more gracefully. Less clothing is required in rational dress, because the circulation of the blood is unimpeded and the distribution of clothing is uniform, because its freedom permits the exercise necessary for the manufacture of internal heat, and because its looseness allows the aëration of the garments and of the surface of the body. We should also understand that the warmth of the clothing does not depend upon the thickness or weight of material. The warmest clothes are obtained from " light, loose, porous tissues, having a capacity to retain in the spaces between their fibres a large quantity of air. It is an essential condition of a good garment that it shall not interpose an obstacle to ventilation."

The innovations suggested in the present movement may seem ultra to those who do not feel their need. Nothing seems extreme when we feel its rightness. Many questions arise as to the practical

difficulties in adopting bifurcated underclothing and discarding corsets. We venture to answer some of the questions which suggest themselves.

Question. In clothing each leg separately is the secret of woman's bipedal anatomy revealed?

Answer. No; there is sufficient drapery to keep up this important illusion.

Q. Is not the outline of the leg defined in the systems described?

A. No; it is far less conspicuous than with the drawn-back skirts which were worn a few years since.

Q. Do not the skirts sink in about the ankles when petticoats are not used?

A. The dress certainly does not stand out as prominently as when stiff petticoats are used. This is an improvement in the appearance of the gown, which, artistically considered, should follow the line of the body.

Q. Is not the white skirt a neat and dainty part of feminine toilet?

A. No; it is heavy and easily soiled; when starched it is stiff and utterly inartistic.

Q. Shall I not be too cold in modern underclothing?

A. Gauge the quality and number of the garments by the need of the climate.

Q. Shall I be too warm?

A. By lightening the quality and lessening the number you can be dressed as cool as you please.

Q. I am very stout; I should look untidy without the support of the corset.

A. The weakness of the breast muscles has come through the use of the corset. If you are not willing to reduce flesh by exercise and proper food, and to sustain yourself by normal effort, then support the bust from the shoulders by a boneless waist.

Q. I am very stout; I should look like a tub without a corset.

A. It is no worse to look like a tub than an hour-glass. You will move more easily, and therefore your size will be less apparent, if your clothing is loose. Of two evils choose the less. Obesity can never be made becoming; if it cannot be overcome, it must be accepted as one accepts other physical deformities.

Q. I am very thin; would it not be better to wear corsets and starched petticoats in order to fill out deficiencies?

A. No; the corset would make the appearance still more angular, and starched petticoats are opposed to every law of art.

Q. Does the tailor-made dress look well without bones or corset?

A. No; a bodice made on the plan of a corset requires a corset underneath. With or without stays the tailor-made gown is an abomination. Another style of dress is necessitated.

The usual objection brought against rational dress is on the score of economy. The combination suit is a little more expensive than those in which drawers and vest are sold separately. When drastic economy is necessary, the same effect can be produced by joining drawers and vest. A pair of scissors, needle, and thread are the only requisites. Equestrian drawers range from $1.75 to $9 in price. These also can be made at home, if necessary. They can be made of flannel or cloth, and should be fulled over the knee to avoid strain. There is a deal of thoughtlessness in this cry of economy. It often comes from those who do not blink at corset-covers and petticoats trimmed with costly lace and embroideries. Requiring fewer garments, and these being more easy to launder, the actual expense is not greater than in the established method. Were it more expensive, the time, doctor's bills, and hospital treatment saved through rational dress would more than compensate therefor.

Whether more radical changes will ever be made in the externals of dress it is not possible to foretell. "What is the ideal dress?" "What will be the dress of the coming woman?" is seriously asked. From an artistic point of view it is probable that draperies will be always preferred for house-dress. Women do not covet the stiff pantaloonery of masculine attire, yet dress naturally conforms itself to the necessities of occupation. The fact that women are more and more admitted to professional and business life, requiring regular attendance in all kinds of weather; the fact, also, that there is a growing interest in physical development—suggest that a costume should be devised which will make exposure to inclement weather less perilous and movement less restricted. Whether this can be accomplished by simply shortening the dress-skirt, or whether woman's dress will evolve as man's dress has evolved, are questions which time will decide. A contributor to the *Daily News* is of the opinion that "the dress of the twentieth century will emphasize distinctions of occupation, not distinctions of sex."

The emancipation of woman from the evils of conventional dress is no longer left to a few brave souls to fight single handed. The work has as-

sumed definite proportions and taken on the dignity of organized effort. The National Council of Women of the United States, at a meeting in Washington in 1891, appointed a committee to consider the subject and devise a suitable costume. There has been some misconception of the aim of the Council regarding this work, some believing that "a business suit" would foster class distinctions, others alleging that women would be put into a species of uniform. The President of the Council, Mrs. Wright Sewall, says concerning the first objection: "The Executive Committee of the Council does not recognize any arbitrary division of women into two classes—business women and society women; all noble women, whatever degree of material luxury and ease their situation in life may afford, do, at the present time, devote many hours daily to the superintendence of domestic affairs, to the ministrations of charity, or to some other service in which the conventional dress is an obstruction; and all business women, whether in or out of domestic life, whether rich or poor, have occasional leisure for society." The intention of the Council is summed up in the following resolution framed by its Executive Committee.

Resolved, That the National Council of Women of

The new gymnastic suit is used in our best gymnasiums because of its lightness and safety. It is mock-modesty which compels woman to conceal the fact that she is two-legged. The legs should be as free as the arms. The new gymnastic suit shows that as women receive the higher education they are willing to adopt a style of dress suited to their work. We recall the case of a scientifically trained city girl who took upon herself the cares of a farmer's

THE NEW GYMNASTIC SUIT.

wife. This gifted woman, an accomplished musician and a trained Shakespearian reader, donned the gymnastic suit of the school-room for the varied duties of the morning. We have seen her going thus equipped through the dewy grass to the milk-yard and garden, with no fear of wet skirts; free to carry butter and eggs up the cellar-stairs with no danger of tripping on unnecessary drapery. This woman solved the problem of "dress and occupation" for herself; and is it not a wise solution for others also?

AFTER THE SYRIAN DRESS ADOPTED BY THE ENGLISH RATIONAL DRESS ASSOCIATION.

The Syrian skirt is gathered at the bottom, and this fullness is caught up around each leg and fastened to a lining of drawers. The skirt should not be so full as to be heavy or baggy. The blouse waist may be worn with or without the jacket, or another form of coat may be substituted.

the United Stated, through its Committee on Dress, will continue to work toward the evolution of a comfortable dress for women, suitable for business hours, for shopping, for marketing, house work, walking, and other forms of exercise. The council neither recommends nor desires that this dress be a uniform, and it believes that a dress *suitable* to business hours would be much more susceptible to the modifications necessary to adapt it to different women and types of women, than is the present conventional dress."

The average American is a busy woman. She is a housewife, a mother, a teacher, a shop-girl, a professional worker. Rejoicing in the spheres of usefulness open to her, she ought to dress so that her duties can be performed with strength and ease. The average woman wants, for working hours, a costume so short as to escape dirt and dampness; one that allows muscular freedom; one that does not tax the vitality by unnecessary weight and drapery; one that can be easily made, quickly put on and taken off. The Committee acting for the National Council have given this subject careful study. Their report has been presented to and accepted by the Executive Board. They recommend the

Syrian costume adopted by the English Society for Rational Dress, the short-skirted gown with leggins, and the new gymnastic suit as the basis of an every-day dress for business and work. With these as a basis individual taste may vary the details, just as it has varied the details of conventional dress. Costumes of this kind have been already adopted by the mountain tourist, and it is reasonable to hope that what is womanly for the carefully-guarded Oriental may be tolerated by the progressive American. In a skirt falling just below the knee the school-girl, the teacher, the business woman, the pedestrian could pursue her way with ease and comfort.

And why should not the gymnastic suit, which has a place of honor in the school-room, have also a place of honor in the home? It is the only costume which is convenient for domestic work, therefore it is becoming. In these days when women are clamoring for rights, we claim the right to comfortable clothes. We claim the right not to make butterflies and poppinjays of ourselves. Under the leadership of intelligent and true-hearted women let us, by a united effort, free ourselves from the thraldom of swaddling-clothes. We need only

CONVENTIONAL MODESTY.

The costume represented here embodies the principles advocated by the Committee acting for the National Council of Women. It therefore demands an unprejudiced consideration. The skirt falls just below the knee and is met at this point by the gaiter of the same material, or the Polish boot. A skirt of this length is less burdensome and not as easily soiled or wet as one which simply clears the ground. The artists say that this is the more graceful

THE SHORT WALKING-DRESS.

length, and we believe that, on the whole, it is also the more modest. It relieves us from those unsightly spectacles which are continually witnessed on stormy days at bad crossings, in climbing in and out of conveyances, etc. If this short skirt were the fashion there would be no cry of impropriety. With the concerted action of intelligent women we may have a costume conforming to the laws of health, convenience, and beauty.

unity of purpose to make a general and permanent emancipation.

In concluding the suggestions concerning hygienic clothing, it seems important to call attention to our inhumane methods of dressing infants. This subject has been ably discussed by Dr. L. C. Grosvenor in *Babyhood*, June, 1886.

Dr. Grosvenor comments thus on the conventional infant wardrobe : in the first place there is a little bandage to go two or three times around the body over the navel dressing, and to be pinned with four pins ; and you know it is customary to wear this until the child goes into short clothes, or even through the second summer. Now, the Creator has made the abdominal wall elastic for a purpose—to accommodate itself to the varying conditions of the child's digestion. If it has a full meal the wall is large enough, and if it has eaten little it is none too large. If there is wind in the bowels the abdomen distends and gives it room till it can find its way through sixteen feet of convoluted intestine. The bandage destroys all this elasticity and defeats the Creator's plans in the matter. But, say the old ladies, we must put on a bandage and put it on snugly, or the baby will be ruptured or big-bellied, and all out of shape. Non-

sense! Nature does not do her work in such a careless way. When the infant cries lustily this elastic wall distends evenly in all directions, and if not bandaged seldom ruptures. It is the bandaged babies who rupture.

Let us see; the band was well applied in the morning, but, in the constant motion so characteristic to the young of all animals, it is partially displaced, compressing a portion of the abdomen, but exposing the umbilicus, which now has to take the whole pressure, and bursts, and we have an umbilical hernia. But, says the grandmother or nurse, I do not apply the band in any such careless way. I adjust it evenly and put in four pins, the lower one through the diaper to hold it down. What happens now? The child cries, and the chance of distention being gone, it ruptures into the scrotum if a boy, or in the femoral region if a girl—surely not a very desirable condition.

No; I would dress the navel with a pad of absorbent cotton and a light band held by two pins, just enough to retain the naval dressing, and discard the band when the navel dressing comes off. I have seen only one ruptured baby in twenty years among the unbandaged."

Dr. Grosvenor considers the pinning blanket

"one of the most uncomfortable and unhealthy garments ever invented. Let us see. The chest-wall is made to expand at every inspiration and expiration. The ribs do not pass around the body like a barrel-hoop, but curve downward and upward from the sternum to the spine in such a way as to favor this expansion and contraction; and we put on this pinning blanket, whose band is made of inelastic material, close up under the arms, and pin snugly—over two fingers is the old rule—and so spoil all the expansive power of the chest during the first weeks and months of the infant life. We forget that within these thoracic walls are great vital organs which, during these beginnings of life, should have free play. But I have another indictment against this absurd pinning blanket. One side is folded over one limb and the other over the other, and then the bottom is folded upon the thighs and pinned so that the little one cannot move a limb; at which it cries, and we say Colic, and commence to dose it.

"After this comes the skirt, which has the same objection as the pinning blanket—tightness about the chest. Another objection I have to all these, that they clothe the chest warmly and leave the shoulders with only a slight covering—the dress."

The suit invented by Dr. Grosvenor, known as the Gertrude Baby Suit, is entirely free from all these objections. The undergarment is cut after a princess pattern, reaching from the neck to ten inches below the feet, with sleeves which come to the wrists, having all the seams smooth and the hems at neck, wrist, and bottom on the outside. The next garment is also cut princess, made by the same pattern, but without sleeves, and with a generous armhole. These garments are slipped together before dressing—sleeve within sleeve—and are put on over the head at once and buttoned behind. The most desirable material for the undergarments of an infant is Jaeger all-wool stockinet, of soft texture. For those who cannot afford the stockinet, Dr. Grosvenor recommends a choice, medium-weight cotton flannel, because it is soft, fleecy, warm, and unirritating, and when properly washed retains these qualities more than any other goods. The same suit, the Arnold Knitted Garments, woven of antiseptic material, can be purchased at our leading dry-goods houses.

CHAPTER XI.

HYGIENE AND DRESS OF THE FEET.

"Shoemakers should be treated as pirates and put to death without trial or mercy, as they inflict more suffering on mankind than any other class."—*Lord Palmerston.*

No part of the body excites more wonder and admiration than the foot—twenty-eight bones and joints, with numerous muscles, blood-vessels, and nerves; all these fitted together, in the space of a few inches, so as to sustain an upright body and to propel it with perfect ease. Aside from adaptability, the human foot, in its normal condition, is a thing of beauty, but it is so distorted through errors of dress, that this beauty is seldom seen. The artist's models are taken from the young child and the barefoot peasant.

The normal foot approaches the form of the ellipse. (See Figs. 43 and 44.) The toes are slightly separated, and the breadth through them is a little greater than through the ball. The contour is that

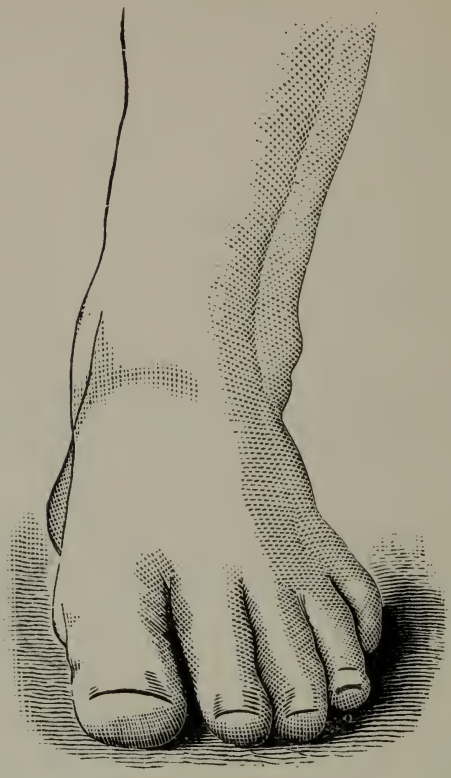


FIG. 43.—Normal Foot (*Pop. Sci. Mo.*, Appleton).

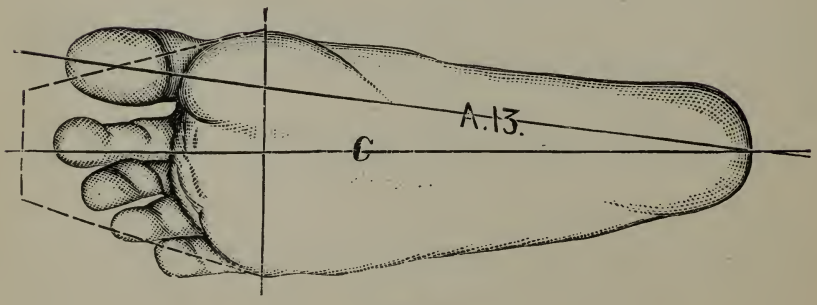


FIG. 44.

of an ever-varying, delicately increasing line from heel to toe. In standing the weight of the body comes on the arch, of which the ball of the great toe and the heel are haunches, the principal weight being on the ball. In walking the body is propelled forward by the muscles of the great toe. The spread of the small toes increases the breadth of the foot and thus adds to the firmness of the support and the grasp on the surface. The walking axis of the foot passes through the middle of the heel, the great-toe joint, and the great toe, as seen in Fig. 45. That this is not the axis of ordinary walk-

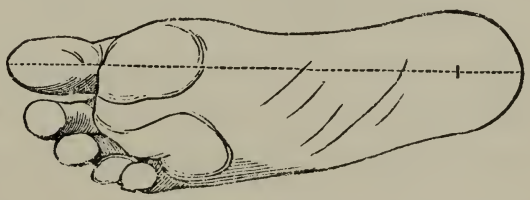


Fig. 45.—Fig. 8, "The Feet" (Fowler, Wells & Co.).

ing is proved by the fact that the sole of the boot does not often wear evenly. The heel is usually run over on the outside, indicating a transfer of the walking axis to the outside of the foot, the weight principally on the heel.

Fig. 46 shows a common shape of the foot produced by illy fitting shoes. The toes are cramped, distorted, and interlapped; the joints are enlarged

and misshapen. When we remember that the toes are, by nature, perfectly mobile, and that the workmen of India use them with almost the same dexterity as the fingers, we are able to appreciate the fact that modern shoes have made the toes an un-

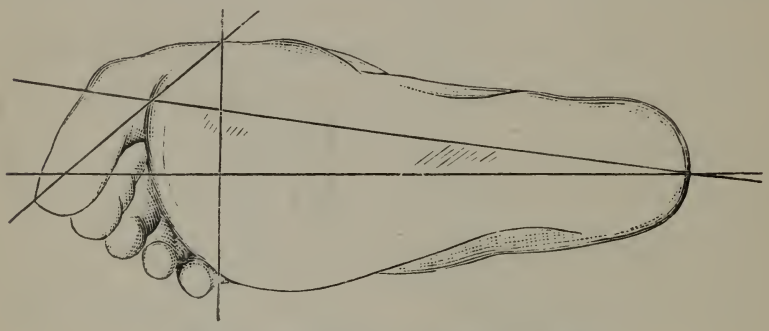


Fig. 46.—Abnormal Foot (*Pop. Sci. Mo.*).

necessary appendage, a region given over to corns, bunions, and other inconveniences.

Tight shoes weaken the power of the muscles by preventing the action which is necessary to development, and by cutting off the blood supply; the feet are badly nourished and the nerves diseased. The pressure about the ankles has the effect of a corseted ankle, the leg muscles are weakened, and a change in the mechanism of walking is necessitated. High heels throw the body forward, change the centre of gravity, and dislocate the organs of the pelvis. Curvature of the spine and other abnormalities result from the effort of the body to main-

tain an artificial equilibrium. The leverage is so changed that remote members suffer, and even the power of the arms is diminished. Dowie says: "If a soldier be weak or lame in the feet, he can never apply with advantage the strength of his arm in charging the enemy, or in sustaining a charge, because the foot is that part of the mechanical system or leverage which rests upon the fulcrum—the ground; and if you weaken the leverage at this important point, the strength is reduced." Flat-foot, or the breaking of the arch, is another result of tight shoes. The weight of the body being shifted from the point designed by nature, breaks the arch by reason of the abnormal strain.

Diseases of the foot are numerous, painful, and sometimes dangerous. The nails, joints, and bones are subject to maladies which often require the most skillful surgical treatment. A scrofulous state of the blood produces malignant conditions. Specialists speak of the mysterious connection existing between the nerves of the feet and the brain and nervous system. "Dr. Brown-Séquard gives an account of a patient who, whenever he bore the weight of his body on the right toe, became violently insane. A surgical operation, whereby a nerve was bisected, cured him. He also speaks of a similar instance

where pressure on the toe relieved nervous paroxysms."

The tight shoe, worn in the name of the beautiful, defeats the purpose for which it is intended. The foot, like every other member, is given a size proportional to that of the body. A small foot looks well only when it is a part of a small body. It is exquisiteness of shape, not diminutive size, which gives beauty to these members. A graceful walk depends upon the elasticity of the arch and the strength and mobility of the toes, which help to raise the body. With immobility of the muscles we must have an uncertain, heavy thud, instead of a light, springy, elastic step.

In childhood, when the bones and cartilages are tender, the feet are especially susceptible to injury. Nature has implanted in the child a love for the hopping, skipping, and jumping movements which strengthen the muscles and make the feet vigorous. The barefoot rustic has an immense advantage, because the foot has opportunity to spread, and the muscles can play freely. When the delicate foot of a little child is put into the modern shoe, the muscles of the toes, sole, and ankle are restricted in movement, and this means an arrest in their development. Another perversion from nature is the

A TEA-GOWN SUITABLE FOR STOUT WOMEN.

turning out of the toes so carefully taught in dancing and in polite walking. It is said that uncivilized races never turn out the toes in walking. Anatomists and artists declare that the construction of the foot shows that the toes should not turn out. Authorities on this subject find in this "vicious aversion of the foot" a cause for the "breaking down of the arch, which is most common among children of the wealthy class."

The ills of the feet are not entirely due to the vanity of human nature. They are due also to the ignorance of the shoemaking craft. Dowie, who was a scientific shoemaker, and not only studied the anatomy of the foot himself, but saw that his journeymen were carefully instructed, gives the following enumeration of errors: "That shoes are worn too short; that they are cut too narrow at the toes and in the sole; that the soles do not conform to the shape of the inner curve of the foot, nor to the line of the great arch or instep and the great-toe; that at the waist or middle the sole is too stiff and unyielding; that the toe is vertically too shallow, or 'wedge-toed'; that the heel is too high; that the sole turns up too much at the toes." Thanks to lawn-tennis, the fact that a heel is not necessary

to "give spring" to the foot has been demonstrated, and the ideal shoe has none.

How then shall we be shod? The moccasin of the aboriginal Indian takes precedence of our modern chausserie in its adaptation to the needs of the foot. Happily for society, our artists of clothes pronounce the Persian slipper the most æsthetic foot-covering and the one which permits a graceful and easy walk. Young children, if they must be shod, should wear the moccasin. This will allow the foot to spread and the muscles of the legs and feet to develop by exercise. Within the last few years very radical changes have been made in the style of boots offered in the market. The common-sense shoe is well named, and the fact that it is salable proves that there remains a remnant who do not bow the knee to the Baal of fashion. The style of the shoe always reveals the character of the wearer, and harmonizes with other details of the toilet. Shoes have a social history; in the periods of greatest debauchery they have been atrocious in style and extravagant in ornamentation. Manufacturers who make boots and shoes according to the principles of hygiene, say that broad soles were introduced with great difficulty. This system is based on the natural shape

of the foot. In taking measurements for the boot the foot is spread on the floor, and the outline taken is the measure of the sole. Fig. 47, by

FIG. 47—The Eureka.

Dr. J. L. Peck, is a last which meets anatomic requirements concerning the form of sole. In selecting shoes it is important to allow sufficient length and an easy fit, especially about the ankle. The sole should be so wide that the uppers will not spread beyond them when the foot is pressed on the ground. Broad toes and no heels are essential. The boot should be of flexible material.

CHAPTER XII.

PHYSICAL DEVELOPMENT.

"Le physique gouverne toujours le moral."—*Voltaire.*

"It is impossible to repress luxury by legislation, but its influence may be counteracted by athletic games."—*Solon.*

"Abashed the devil stood,
And felt how awful goodness is,
And saw Virtue in her shape how lovely."—*Milton.*

WERE it practicable to live an ideal life no study of physical culture would be necessary. Our daily activities would furnish the proper development. This is Ruskin's picture: "An ancestry of the purest race, trained from infancy constantly but not excessively in all exercises of dignity—not in twists and straining dexterities, but in natural exercises of running, casting, or riding; practised in endurance, not of extraordinary hardship, for that hardens and degrades the body, but of natural hardships, vicissitudes of winter and summer and cold and heat, yet in a climate where none are too

severe; surrounded also by a certain degree of right luxury, so as to soften and refine the forms of strength." But the ideal life, which is also the natural life, is not possible in the nineteenth century. From the cradle to the grave we are surrounded by deteriorating influences. The well-born child is our only embodiment of physical beauty; muscles relaxed, body perfectly poised, every movement is full of unconscious grace. At an early age inherited muscular and nervous peculiarities begin to show themselves. Through ignorance, indifference, the subtle power of imitation, and defects of character he loses the erect carriage and falls into slouchy ways of sitting, standing, and walking. Physical faults are seldom corrected. The occasional injunction, "Throw back your shoulders," does not secure erect carriage, and the persistent care exercised to secure right-handedness results in one-sided development. Teachers of physical culture mention cases in which the left shoulder had fallen two inches through lack of exercise. Not only the left hand, but the whole left side of the body, is crippled by the unfortunate supremacy given to the right hand. Dr. Richardson tells us that right-handedness and right-sidedness are also registered in the brains;

"the left side of the brain, which supervises the right side of the body, being generally the larger."

In childhood, when physical development should be of paramount importance, the precedence is usually given to brain-culture. Children are shut up in stuffy school-rooms, cramped into badly constructed seats, allowed to stoop over books in a way which depresses the chest; while the grading system, the examinations, and other stimuli used to excite ambition are a great draught on the nervous system. Very few children enter adult life with well-knit, harmoniously developed bodies, and the formative period is as vital for physical as for moral well-being.

The occupations of adult life necessitate, on the one hand, excessive and monotonous manual labor, and, on the other, insufficient exercise and mental strain. A familiar example of the first class is the farmer, and nearly one third of our population are farmers, whose work develops the muscles of the back and arms, while the chest is contracted and narrow. We seldom see a farmer who stands erect or walks with elastic step. The farmer's son develops the same characteristics before he reaches his teens.

There is now an increasing tendency to city life.

Multitudes crowd the factory, the counting-room, the artisan, mercantile and professional life, where they are shut away from sunshine and fresh air. In these avocations there is a tendency to chest-contraction, and no opportunity for muscle-making exercise. The use of machines, the specialization of labor, the increase of wealth with its attendant luxury, the competition and complication of business life, the intellectual and emotional character of our amusements, are pointed out as causes of physical deterioration and increase of nervous disease. It is urged that systematic physical training be made compulsory in our public schools. The end sought is not heavy gymnastic feats, but harmonious development, strong nerves, and clear brains.

Well-built bodies do not come by chance. The physical superiority of the ancient Greeks was not an accident. For years the entire nation had given itself to the training of the body as a religious service. Their women also were exercised in games of running, throwing, and casting. When the deteriorating influence of increasing wealth made itself felt, the public authorities endeavored to counteract the threatening evil by physical education. Should we to-day undertake the education of the

body with the same earnest spirit, the same results would be accomplished. It is the purpose of physical culture to correct the deviations from the law of our being which result from abnormal conditions. In its full sense the subject of physical culture includes the study of food, clothing, ventilation, bathing, exercise, and rest. In a technical sense it concerns the development, relaxation, and guidance of the muscles, and the development and strengthening of the nerve-centres which control them; the needs of each individual are studied, defective attitudes are corrected, and appropriate exercise is given.

Systematic exercise, under intelligent supervision, is as necessary for physical as for mental growth. We recognize the necessity of exercise in the physical development of boys, but practically ignore it in the development of girls. Herbert Spencer contrasts the playground of a boys' and girls' school: "In the case of a boys' school nearly the whole of a large garden is turned into an open, gravelled space, affording ample scope for games, and supplied with poles and horizontal bars for gymnastic exercises. Every day before breakfast, again at mid-day, again in the afternoon, and once more after school

DESIGN BY E. T. JEWETT.

In presenting designs for trailing gowns it may be well to call attention to the occasions on which they are permissible. We believe that all women should have hours of occupation as well as hours of leisure, with the preponderance in favor of activity. Trailing gowns are tolerated only in the leisure of the drawing-room.

is over, the neighborhood is awakened by a chorus of shouts and laughter as the boys rush out to play; and for as long as they remain both eyes and ears give proof that they are absorbed by enjoyable activity which makes the pulse bound and insures the healthful activity of every organ. How unlike is the picture offered by the establishment for young ladies! Until the fact was pointed out, we actually did not know that we had a girls' school as close to us as the school for boys. The garden, equally large with the other, affords no sign whatever of any provision for juvenile recreation, but is entirely laid out with prim grass-plots, gravel walks, shrubs, and flowers, after the usual suburban style. During five months we have not once had our attention drawn to the premises by a shout or a laugh. Occasionally girls may be observed sauntering along the paths with their lesson-books in their hands, or else walking arm in arm. Once, indeed, we saw one chase another around the garden; but, with this exception, nothing like vigorous exertion has been visible." In our cities we cannot, it is true, have a free, open-air life, but dumb-bells and calisthenics, we must remember, are poor substitutes for natural out-of-door pastimes.

The contrast in activities, which result in vigorous or enervated life, marks every period in woman's existence. Her work gives a tendency to chest-contraction, is sedentary, and is uniformly conducted within doors. Few American women know what active exercise is, for "the laboring class" is usually of foreign birth. The great portion of American women are housewives and do their own work. Only about one family in twelve employs domestic service. Then we have an army of shop-girls, factory-hands, seamstresses, teachers, whose nerve-exhausting work has no antidote of exercise. These, with a few in the well-appointed homes of the upper classes, who are physically starved by luxurious idleness, make up the bulk of female population.

Whether housework affords a sufficient amount of exercise depends somewhat on the character of the work. The wash-tub and a Brussels carpet certainly call forth muscle-developing action, but dish-washing, dusting, "picking up," mending, and the little round which keeps the housewife eternally occupied, require no blood-stirring exertion. She may be wearied to the point of exhaustion with this monotonous routine, yet have no vigorous muscular action. Housework is better than no

work. Tolstoï is right: manual employment is necessary even for brain-workers. It is better to cobble second-rate shoes than to do no work. Housework is an important part of the domestic economy, yet it is despised by all classes of women. Those who are obliged to do it usually chaff under the drudgery. Those who can, delegate it to others. It is to be hoped that the present interest in physical culture will give dignity to this department of labor. The gymnastics of bed-making, which even a society girl can indulge in, exercise the muscles of the arms, side, and back. Sweeping the parlor carpet or shaking the rugs will start the circulation as well as a chest-weight, and has the advantage of being useful.

Childhood is the period ordained for health-giving pursuits. Freedom from care, exuberance of spirits, elastic muscles, are nature's indications of the golden age for physical culture. Realizing the importance of the formative period of life, Plato, in his "Ideal Republic," prescribes for the pastimes of youth. With girls active, open-air sports are especially necessary as a counterbalance for the shut-in life of maturity; yet these recreations society tacitly frowns upon. Girls are trained from babyhood into sedentary habits; the doll is con-

sidered her legitimate plaything. It is tacitly understood that girls are born with a passion for dolls, and boys with a passion for animals. The boy who finds amusement in the caressing and dressing of dolls is called a girl-baby. He is looked upon with anxiety as of a maudlin nature, and as not possessing the animal spirit which calls for active amusement. This maudlin nature is just as lamentable in a girl, but custom blinds our eyes to the fact. The care of a doll is said to develop the mother instinct and to teach the care of the wardrobe. Why the mother instinct should require premature cultivation in girls and not the father instinct in boys society saith not. Amusements which are the prerogative of boys are also the prerogative of girls. To run, jump, climb, hammer, go fishing, play ball, slide down hill, skate, if they were allowed freedom of choice, would be as instinctive in girls as in boys. Instead of calling the girl who loves these sports a tomboy we ought to rejoice that she has the physical strength to enjoy them. If she lacks this strength, the same effort to improve her vitality should be made as is made for boys.

Much of the indoor life of women is wilful. Even in the country, with nature's beautiful invita-

tion to ozone and sunlight constantly in view, women are usually mewed up within four walls. The rosy-cheeked country girl is a poetic fiction. Women show the same wilful neglect of exercise; in fact the woman who is called upon for active muscular exertion feels herself abused; for heavy lifting she always appeals to masculine aid. Men would doubtless loose muscular power if they refused to use the means by which strength is developed. A certain woman of sedentary habits and predisposed to pulmonary troubles tried the experiment of chopping wood a short time every day, and the wood-pile saved her from the grave. Five finger-exercises at the piano do not compensate for lack of exercise in the thousand muscles of the body.

The proper amount of fresh air, exercise, and rest is possible only to a privileged class; the majority cannot regulate their lives to meet the requirements of hygiene. An army of women fighting for daily bread with only the weapon of their hands, an army of women prematurely aged by drudgery has no time for æsthetic physical culture. It must be admitted that the problem of the working classes lies in the readjustment of social questions. Much can be done meantime to alleviate un-

favorable conditions. If women are compelled to live within doors, the most careful attention should be given to the ventilation of their dwellings. Carpets and draperies which retain dust and impure emanations should be banished. Sunshine and fresh air should be freely admitted. A third part of our life is spent in sleep. By opening the windows of the sleeping-room one can practically sleep out of doors the year round. Opening the windows of the bedchamber does not mean one window grudgingly thrown up a quarter of an inch; it means windows open to the full height. We should rise superior to the old woman's theory that night-air is bad air. It is the only air we have at night, and it is usually purer than day-air. Our double windows and our battened doors cheat us of a heaven-given birthright. No woman is so destitute that she cannot have fresh air and sunshine. The real difficulty is that all of us, rich and poor alike, prefer hot, stuffy dwelling-rooms.

An important means of alleviating woman's burden of drudgery is to distinguish work which is really important from that which is superfluous. A great deal of woman's work is unnecessary; it is the frills and furbelows of cooking and housekeeping and sewing. Much undue labor is caused by foolish

ambition and the sordid desire for accumulating property; we are not content having food and raiment. Much is due to ignorance of the laws of muscular economy; the seamstress laboring to keep the wolf from the door dares not allow herself a moment for recreation, when to draw a long breath, to stretch a tired muscle, would impart fresh power to continue.

The chief obstacle in the way of introducing correct dress is the physical condition of women. The stout wear tight clothing because of a mistaken idea that pressure diminishes apparent bulk. The thin wear the corset to conceal and fill out a meagre body. The present interest in dress contemplates not only improvement in clothing, but the formation of erect bodies under the control of flexible muscles. A corpulent body is not to be stayed up by lacing, but must be taught to sustain itself and must have room for easy movement. Defects of the body are not to be concealed by dress, but overcome by healthful exercise. A narrow chest is not to be padded, but developed.

Since corpulence and leanness are the two great obstacles in introducing correct dress, a careful study of the natural laws which prevent and develop adipose tissue is important. Thinness and

stoutness are not altogether accidental, but are the normal results of the conditions of life. As a rule, the lean are the hard workers and frugal livers; the stout are the indolent and well-fed. Physical development is to a great degree an inheritance, but this is the general law. The pounds avoirdupois usually give a clue to the temperament and avocation. The laboring class, whether the work be manual or mental, have a lean, hungry look. The denizens of society are fat and flourishing. They that dwell in king's houses wear the insignia of adipose tissue.

This is no new theory; it is as old as Lycurgus. We recognize the law in the lower orders of life. Poultry to be fatted for the market is shut up and corn-fed. The stalled ox tells its own story. The market furnishes us pâté de fois gras at the expense of the Strasburg goose, overfed to the point of liver complaint. The Italians have a device for inducing the ortolan to sleep and eat constantly, and by this means the poor bird in three days becomes "a delicious ball of fat." Too many oats and too little exercise will make the best horse fat and lazy. A well-known New England educator has a favorite horse which he is in the habit of weighing every week in order to ascertain his physical

DESIGN SUITABLE FOR STOUT WOMEN.

status. At one of the customary weighings the scales showed a loss in the animal of one pound. The master gave orders immediately that the horse should not be driven for a week, until his normal weight was recovered. An establishment in Silesia advertises to make the thin fat. The gain guaranteed is one-half pound daily. The patients are fed eight times per day. They eat slowly to the time of music. Exercise is regulated according to the need of the patient. Dr. Sargent says: "Appropriate exercise for the waist will soon reduce superfluous fat, and healthy muscle will take the place of the corset in supporting the bust and giving uprightness to the figure. One object of physical training is to keep down or reduce superfluous flesh." Obesity shows an unhealthful state of the system. It is a mild form of gout, and should be overcome by eradicating the disease. One may see the absurdity of attempting to reduce flesh by the use of the corset if one imagines a corpulent man attempting to lace in redundant fat. Excessive leanness also shows an impoverished and unhealthy condition of the system. It is easier to reduce flesh than to acquire it, for the reason that self-denial, frugality, and exercise are possible to

every one, while proper nourishment, physical ease, and mental repose are possible to few.

The first and vital step in physical culture is to overcome departures from nature in the common habits of life—breathing, standing, walking, and sitting. Women have, through weakness, indolence, acquired habit, and the restrictions of dress, assumed an unnatural carriage which has become second nature. Hardly one can be found who holds herself or walks in a natural or normal manner. An effort to assume the erect position and normal poise causes at first a feeling of constraint and awkwardness. The chest is sunken, the head dropped forward, the neck curved, the abdomen protruded, and the base of the back correspondingly depressed. In standing the weight of the body is thrown on the heels; in sitting the weight of the trunk is thrown on the spine (Figs. 48 and 49).* The breath is short and quick, seldom calling the diaphragm into action. These violations of the law of our being invite disease. The vital organs are thrown out of position, their altitude is lowered, their functions can go on only with abnormal strain, resulting in permanent weakness and disease.

* From Mrs. Le Favre's Delsartean Physical Culture.

Women must persistently, faithfully, systematically, begin a physical reformation. But how are these faults to be corrected? With a competent teacher one reaps the same advantage in this as in other

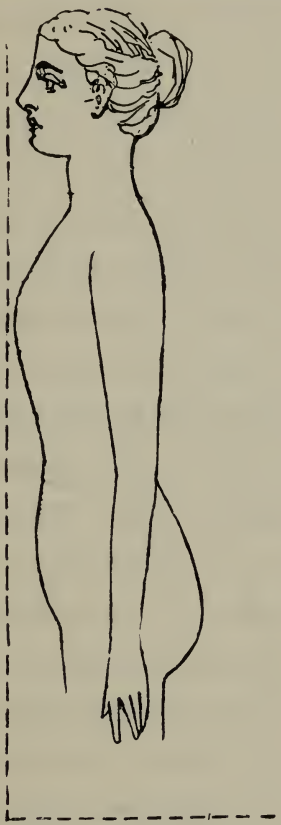


FIG. 48.—Correct.

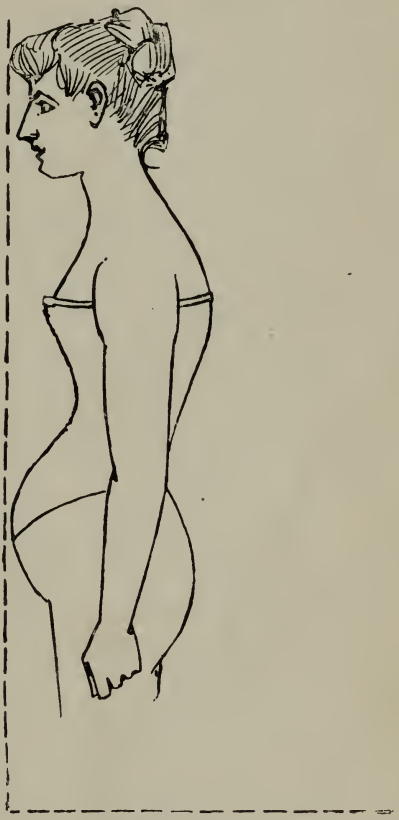


FIG. 49.—Incorrect.

departments. Opportunities for study are every day becoming more general, and physical culture will soon be as summarily insisted upon in our common schools as are now "the three R's." In-

difference is the obstacle to be dreaded. Many who have been instructed are too indolent to make practical use of their knowledge.

We must not for a moment entertain the thought that physical culture is a fad for a few fortunate ladies who can take a course in Delsarte. Delsarte and his exponents are simply striving to get back to nature. If physical faults are common to all women, their remedy is also common to all women, and the little child is a universal teacher. A careful study of his erect body and beautiful poise gives the best practical lesson.

The laws of æsthetic physical culture are authorized by the necessities of our being. Its exercises are not a drill for an occasional hour of practice, but a practical reformation to be taken into the habits of daily life. There should be an effort to maintain the normal pose in every activity; when this is impossible, a frequent return to normal attitudes, a deep breath, and the stretching of cramped muscles will rest the body and counteract the tendency to physical deterioration.

One great step towards physical restoration will be taken when women adopt a style of dress which allows diaphragmatic breathing and muscular freedom. With vital energy, unimpeded respi-

ration, and correct dress we shall instinctively return to natural habits of poise and bearing.

Physical culture teaches muscular economy as well as muscular development. No more muscular force should be expended than is necessary to accomplish a given act. It is estimated that we waste between seventy and eighty per cent of our vital energy. Muscular power is wasted by rigidity of muscles as well as by superfluous motion, and both these forms of wasting power are common among women, because of their excessive nervous development. They work and even rest under the high-pressure system. In the simple act of sewing the lungs are cramped and the needle is drawn through the goods with intense energy; in writing the pen is clutched feverishly and the muscles of arm and wrist are rigidly strained; in walking the arms are either held by the will in stiff attitudes or they are violently swung at the side; in resting the tension of the muscles is still maintained. Only in sleep or in moments of absolute exhaustion do the muscles become limp like those of an animal at rest. Relaxation of muscles is a first practice in physical culture; yet here, again, we must not suppose that muscular abnegation can be acquired

only by the few who go through a course of devitalizing exercises. The secret of the power of muscular relaxation is in the mind. If we dismiss from our hearts all unworthy anxieties, all feeling of hurry, we shall learn the economy of muscular and nerve power.

The physical reformation of woman can be accomplished only through her own determined effort. We do not ask that she have the strength and stature of man; we do ask that she have the maximum of womanly strength and stature. Physical inability stands in the way of educational and intellectual progress. Miss Porter says of the girls in private schools: "Nervousness, backache, weakness, loss of appetite, generally follow soon upon the realization that school means hard work. A hard lesson to be mastered lays a girl low with a headache or dissolves her in floods of tears. It is the exception rather than the rule that half the pupils, though they may not call themselves invalids, are in no condition to endure school-work." It is true that we occasionally hear of girls who carry off all the honors in colleges; yet it is also a fact that few women have the physical stamina to endure long-continued mental work. Alas, how many right and noble ambitions must be sacri-

ficed because the flesh is weak! Since women have more leisure than men, the intellectual and physical advancement of the race depends upon them; yet their children are not well born nor well reared. As disciplinarians women fail because they lack the strong physique which alone inspires respect, and the uniform, steady government which results from sound nerves. Mothers have often not the physical strength to combat the strong youthful will, and their influence has the petulance and fickleness born of physical weakness.

Health begets courage, independence, self-reliance, and all the noble traits of character. It is said that ill-health is a source of crime and that a large proportion of our criminal classes come from the physically depraved.

The cultivation of the body should be with us, as with the Greeks, a religious duty. Beauty of soul ought to manifest itself in beauty of person. It seems almost a travesty on virtue that it is usually found in the delicate and cadaverous. The good are often those whose infirmities keep them apart from the temptations of the flesh. The vigor of manhood is more often the type of its lust than its virtue. Happy will be that day when the freshness and strength of manhood and womanhood may

be our ideals of goodness and purity. Our bodies are the temples for the indwelling of the Holy Spirit. If we honor this temple we shall honor the Spirit.

CHAPTER XIII.

BEAUTY OF FORM.

"Who tells you this shape's awkward, that one fine?
Has yours the right to judge or censure mine?"

"Depart not from nature, neither imagine of thyself to invent aught better, for art standeth firmly fixed in nature, and whoso can thence rend her forth, he only possesseth her."

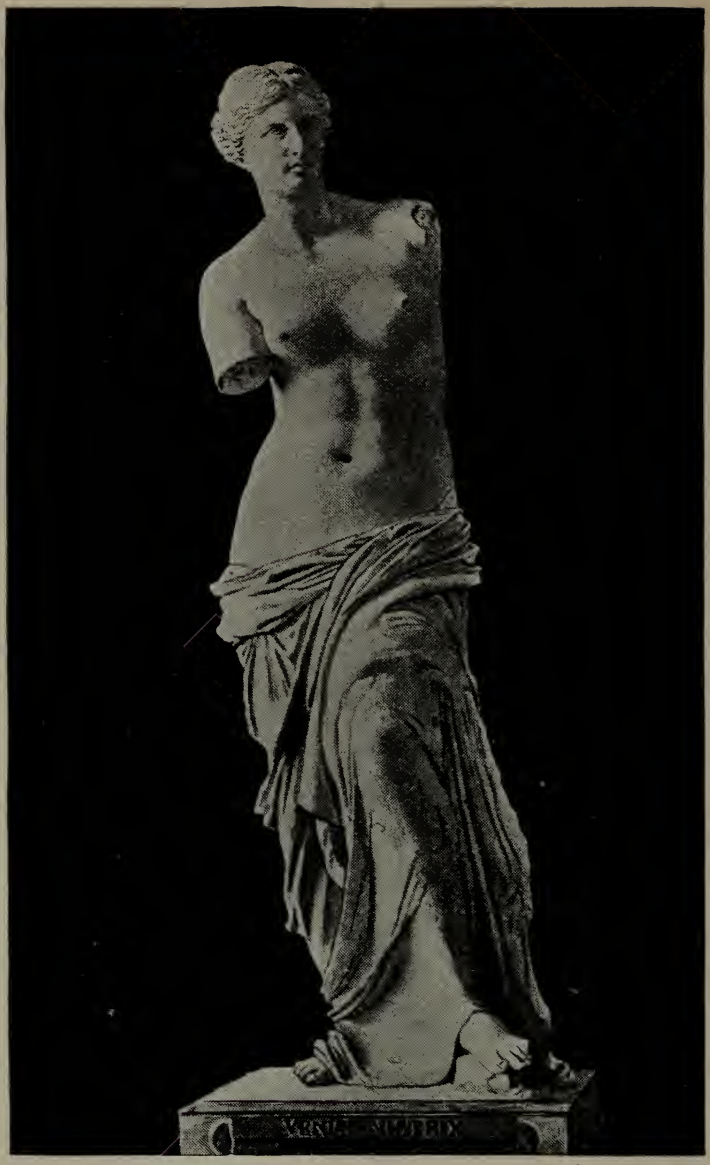
—*Albrecht Dürer.*

The physical senses deteriorate with abuse and vicious surroundings. The constant use of highly seasoned food blunts the sense of taste so that the power of appreciating delicate flavors is lost. Constant strumming of a musical instrument which is out of tune destroys the power of the ear to detect false notes. The eye is equally susceptible to degrading influences. We so invariably see the female body distorted into artificial shapes that taste has been perverted and our eyes have lost the power to distinguish its true beauty. The modern conception of "a fine figure" is quite dif-

ferent from accepted standards in art, and, while "women would be in despair if Nature had formed them as fashion makes them appear," they would be equally in despair to be formed as the artist makes them appear (Figs. 50 and 51).

The striking and obtrusive in nature are sure to command the untrained eye. Even the boor is impressed by a resplendent sunset or the grandeur of a deep-cut gorge. But the real lover of nature, the subtle seer, delights in the wavelike undulations of the sward and the bare arms of the denuded tree, etched against the sky in delicate line and tracery. The boor recognizes the richness of a glowing complexion or an impressive presence, while the trained eye catches the grace of a soft flowing outline and the perfect proportions of an ideal figure. This higher power of appreciation is rare, because it accompanies high intellectual and spiritual development. Reason, analytical power, imagination, and purity of heart are elements necessary to æsthetic insight.

We shall make no progress in correct dress while the eye delights in artificial standards of beauty in form. A very important part of the present effort to improve dress is, therefore, to "put the compasses in the eye," so that it will be pained



VENUS OF MILO.

Here we have the embodiment of an ideal form. The Venus of Milo gives us the true proportions of the feminine body and is also the type of healthful muscular development. The tendency to corpulency among women in middle life is an indication of disease. The remedy for this disease is exercise and diet.

PARIS FASHION-PLATE.

This figure is a fair exponent of our Magazines of Fashion. The girth of the waist is little more than that of the neck. This proportion is not unusual in actual life. With this deformity we find a ponderous development of hips, produced by the crowding down of organs and muscles.

by artificial and conventional shapes. This work is educational and moral.

Since no other nation has possessed the delicate perception of the beautiful with which the ancient Greeks were endowed, we shall find help in ascertaining the conditions which produced this peculiar æsthetic gift. The Greek appreciation of the beautiful was not indigenous, but was the outcome of various happy circumstances. The grandeur of Grecian scenery kindled the Hellenic imagination. Every freedman was trained in logic, rhetoric, and oratory, and this developed the higher intellectual faculties. But their peculiar reverence for the physical man grew out of the Greek religion. The great national games were religious services whose aim was to show the resemblance of the gods to men and to develop the resemblance of men to the gods. Their worship was the attainment of the spiritual through the perfection of the physical. The entire nation gathered to witness the games, for which preparation had been made in even the most remote isles. The candidates were obliged to prove that no stain, civil or religious, was on their character, and that they had been through the prescribed course of gymnasium training. Praxiteles,

Phidias, and Polycletus were the outcome of this age. Grimm says of the work of this period:

"At the time when the best statues of the Greeks were produced, numberless eyes had given long years of study to the contemplation of the human body. The Greeks were accustomed to their own unclothed bodies, and felt themselves freest and best when they wore as few garments as possible. By this means, while with us only the movements of the countenance, and at times of the hands, are a mirror of the feelings, with them the whole body was the expression of the soul within. They knew how to interpret every line. Every movement had its meaning. They saw in the muscles of a naked man what we see in the present day in the wrinkles of the brow." But greater than all else was the Greek study of and sympathy with nature. With them the good and the true was the beautiful, and the beautiful was the good and the true. The Venus of Milo, universally conceded to be the grandest embodiment of the female form which art has ever produced, shows this intense reverence of nature.

To fully understand the beauty of the human form it is necessary to appreciate the grace of curves and undulating lines. The beauty of curved

lines is primarily due to the structure of the eye itself. Straight lines, which call the same set of muscles into continuous action, cause fatigue. Straight lines are crude. They characterize a low order of artistic development. The first attempt which the child makes at drawing is in straight lines. The Indian's artistic efforts are composed of straight lines, just as his music is in dull monotones. Ruskin says on this subject; "That all forms of acknowledged beauty are composed exclusively of curves will, I believe, be generally allowed; but that which there will be more need to prove is the subtlety and constancy of curvature in all natural forms whatsoever. What curvature is to lines, gradation is to shades in color. Not only does every good curve vary in general tendency, but it is modulated, as it proceeds, by myriads of subordinate curves. The essential difference between good and bad drawing or sculpture depends on the quantity and refinement carried by good work into the great lines." "Nature abhors a straight line." Even the sky-line of the sea is only apparently straight; the prairies are varied by delicate undulations.

The contour of the human body reveals all these refinements of curvature and imperceptible grada-

tions. The general outline of the natural female body is that of an elongated oval. This oval contour is composed of two modulating and varying curves, one from the head to the hips, the other the from hips to the feet, the greatest width being at the hips. Fitzgerald compares the outline of the female form to that of "a graceful sinuous column of unequal thickness, rather Doric in outline, surmounted by the head or capital." The small, finely moulded head is poised on the vertebral column. The vertebral column follows the delicate and subtle "line of beauty"—viz., two convex curves separated and joined by a concave. The neck swells gently into the shoulders, whose angularity is prevented by just the proper disposition of fat. The delicate curves of the neck and chest flow into the small, pendent breast. The trunk tapers, in subtle gradation, at the sides, then spreads into the powerful hips. The abdomen is a beautifully modulated convex curve. The entire surface of the body is composed of softly blending lines; not one is repeated, not an angle is visible. The head is balanced on the trunk, the trunk on the legs, and the legs on the arch of the feet, in exquisite poise. Drawing is now recognized as an important aid in training the powers of observation.

Nothing will so help the student to an appreciation of the varying, undulating, and serpentine lines of the human body as to trace the outline of the Venus of Milo.

What does fashionable dress do to this exquisite form? The oval outline is changed into that of an inverted cone, whose greatest width is at the shoulders, the male type of conformation. The Doric column, thinned in the middle, is transformed into an hour-glass. The vertebral column bows visibly at the neck; often, indeed, there is a double curve. The shoulders are pushed up into right angles. The breast is elevated into prominence, and forms with the fat of the neck a solid pin-cushion of adipose. The line from armpit to hips is mathematically rigid and harshly tapering. The line of the abdomen is an unvarying concave, and the hips form an angular protuberance. The poise of the body is destroyed, and an artificial and ungainly balance is necessitated.

Other points in which civilized life has altered the ideal are of interest. The normal head is small, perhaps, in contrast with the power and dignity of a well-developed body. The heads of modern civilized races are too large in proportion to the body. The hands of classic models are large and well

formed ; the fingers, while not blunt, are yet not finely tapered. The models of Greek sculpture were accustomed to labor, and the excessive tapering which marks the useless hand is never seen. The cutting of the finger-nails *à la* manicure does not follow the natural curve of the finger-tip, and the excessive polishing gives a shiny appearance instead of a shell-like surface. These two inversions give to the finger-nails the appearance of birds' claws.

In the science of æsthetics, philosophers recognize proportion, symmetry, variety, and fitness for use as elemental and necessary qualities. Are these demands of the beautiful answered in the human body ?

Proportion is defined as the harmony of the parts of a thing with the whole of it. It is said that there are no principles in the structure of man which may not be taken as the most absolute standard of excellence in architecture. Indeed, Vitruvius says that the artists of antiquity deduced their laws of symmetry from the human body and then applied them to architecture. Each part of the human body has just the size which is necessary for the work it must accomplish, and just the proportion which harmonizes with the

individual. The young, lithe form has a slender waist; the full, strong matron has an ample girth. Fashion attenuates the slim waist of the lithe physique, and forces the small waist on women whose build demands the large. Flesh and blood may be displaced by the corset, but they cannot be eliminated. The forcing of organs and tissues from their proper position results in ungainly proportions of flesh above and below the waist-line. The equilibrium and relation of all the parts of the trunk are altered. The lower part of the waist has been likened to the "monstrous appendage of a wasp's body." The true artist is filled with indignation at the sight of female deformity. Many leading artists refuse to paint the travesty of nature which is produced by fashionable dress. They endeavor to conceal the deformity by the skilful adjustment of drapery.

A prominent artist gives the following measurements as necessary for a perfect model of physical beauty in woman: "To meet the requirements of a classic figure a lady should be five feet four and three-quarter inches tall, thirty-two inches bust measure, twenty-four inches waist, nine inches from armpit to waist, long arms and neck. A queenly woman, however, should be five feet five inches tall,

thirty-six inches about the bust, twenty-six and one-half about the waist, thirty-five over the hips, eleven and one-half inches around the ball of the arm, and six and one-half inches around the wrist. Her hands and feet should not be too small."

Symmetry is defined as the opposition of equal parts to each other. The symmetry of a tree is the arrangement of its boughs so that one side balances the other. If the top of the tree were lopped off, the trunk and the foliage would be out of proportion. If the boughs were lopped off one side, the tree would loose its symmetry. The symmetry of the body is found in the balance of the right and left sides. The right eye is located so that it is symmetrical with the left. If the right eye were half an inch higher than the left, the symmetry would be destroyed. The law of symmetry in the human body is not an arbitrary adjustment of its parts. It grows out of the law of necessity. The right eye an inch higher than the left gives an impression of inharmony, because in such an adjustment the two eyes cannot focus together, and vision is impaired. It needs but a moment of thought to awaken an appreciation of the wonderful symmetry of the human form. The median line passing through the centre of the body divides it into two

equal parts, and each feature of the right side balances and plays into each feature of the left. We say, at the first moment, here is an element of beauty with which fashionable dress does not interfere. A corset, tight sleeves, tight boots, leave the same rigid impression on the right and left sides. But the symmetry of nature is never formal nor accurate. She takes the greatest care to secure some difference between the corresponding things or parts of things. The bough on the left side of the tree is not precisely like the bough on the right. If it were there would be an effect of stiffness and formality. The right and left eyes working in exactly the same method would have the animation of eyes which turn to the right and left by machinery. The symmetry of the corset-figure is mathematical. The rigidity of the waist is the fixed symmetry of an inanimate being. There is no delicate balancing of the sides by the interplay of muscles. The muscles indeed seem petrified. The precise and tapering lines of the corset-figure are of no higher quality than the mantua-maker's dummy.

Variety has already been considered in the study of curvature. Other forms of variety are seen in the wonderful combinations of color. The hair, eyes, lips, complexion, each graded to harmonize

with the other, form a palette which the artist reproduces only approximately. All this beauty of color is lost through ill-health, for which irrational dress is largely responsible. Premature grayness, the lustreless eye, pallid complexion, inelasticity of skin, whiteness of lips, decay of teeth, reduce the brilliant coloring of nature to a dull monotone. Indeed, in the language of Dr. Pritchard, "the idea of beauty of person is synonymous with that of health and perfect organization. Goodness and beauty will accordingly be found to bear a strict relation to each other, and the latter is always the external sign of the former."

Fitness for Use.—Burke say: "The idea of a part being well adapted to its end is one cause of beauty. This fitness is not simply for physical ends, but for sense, thought, and motion." Fitness for use and beauty are so combined in the human body that it is difficult to separate one from the other. The shell-like flutings of the ear contribute to the production of sound, the "little reliefs and faint shadows which mark the fingers" are the necessary foldings of the skin over the joints. Fashionable dress renders the body unfit for use. Where nature has purposely omitted bones, in order to furnish a pivot or centre of motion, there fashion insists upon putting artificial bones, so that

FASHION FOR 1893.

Fashion, like vice, is insidious in development. The most outrageous styles have had an unpretentious beginning. The slight suggestion of crinoline in the styles of 1893 are the counterpart of the primeval hoop-skirt, worn in the Court of Francis I. From this funnel-shaped contour came variations of the most incredible size and design.

the entire economy of motion in the body is frustrated. Walking, running, stooping, sitting, reaching, in a word every motion necessitated by work or exercise, originate at a different point and proceed by a different method than that which nature intended. Not only is grace of motion sacrificed, but an undue amount of nervous and vital energy is consumed in awkward movements. The truly beautiful always embodies a perfectly thought plan. The female figure is especially built for the great and noble plan of maternity. To change the shape so that the body is unfit for this office is not only an assault on the welfare of the human race, but is a gross outrage on the sense of fitness which lies at the base of all true artistic feeling.

But we may analyze all the elements of beauty and understand all its philosophy from the Neoplatonic school to French impressionalism: if the heart is not simple and pure we shall lack the vision of "the inward eye." When we grow into sympathy with nature and with nature's God we shall turn instinctively from everything artificial. There must be a return to the conception of the Creator and a reverent acceptance of His ideal in the form of woman. The pure in heart not only see God, but see His thought in the work of His hands.

CHAPTER XIV.

GRACE IN MOTION.

"Perfect gesture requires reason in addition to grace."—*Attributed to Delsarte.*

"The highest grace is the outcome of consummate strength."—*Goethe.*

MOTION as an art is the youngest of the sciences. Until recently it has been taught empirically. Delsarte discovered the universal laws of form, time, and motion. By patient and ceaseless observation he found also the laws of spontaneous expression in motion. There is no arbitrary standard by which motion is recognized as graceful or awkward, for the laws which govern it are founded in the vital principles of our being.

Every science is suceptible of degradation when it is undertaken in the wrong spirit. The artist who uses the brush for the sole object of selling a picture degrades his profession. Per-

haps no art is so shamelessly belittled as the science of motion. To the multitude the study of grace consists in acquiring a gently serpentine walk, flowing gestures, or a pleasing pose. For this reason it is believed that the study of motion begets self-consciousness. The aim of the science is quite the reverse of the popular conception. The purpose is to rid the student of self-consciousness and to restore the body to its natural, highest, and most economical use. Delsarte himself said, "A gesture put on is a grimace."

Grace has been defined as "self control manifested physically," and "the bodily manifestation of inward freedom." Here we find that the keynote of the science lies in the character. When we begin to analyze the causes of awkwardness we usually find that it originates in defective character; self-consciousness and pride are at the bottom. The little child is graceful because he is unconscious of himself. As soon as the ego develops, awkwardness develops. Pride takes the form of self-depreciation, and the manner is stiff and restrained. It takes the form of self-assertion, and the manner is pompous. It takes the form of superiority and aggressiveness, and the elbows stick out at right angles. It takes the form of

vanity, and we have mincing steps and meaningless grimaces; or it affects strength, and we have assumed vivacity and sprightliness. Self-consciousness acts on the nervous system, and we have the giggling and fingering of embarrassment. Self-consciousness is betrayed in the hands more than in any other part of the body, because they are most free to manifest it. The little child is not conscious of hands, neither is the adult when alone. As soon as a woman enters the drawing-room or goes out in public a consciousness of hands begins, and she cannot feel at ease unless they are occupied with muff, card-case, fan, or parasol. The moment the mind is deeply engrossed the consciousness of the hands vanishes and the fan or parasol becomes unnecessary.

Character has such an influence on the bearing of the body that the mind is revealed by the gait. The firm, erect bearing of youth expresses ambition and the consciousness of strength. The timid heart has a faltering pace. The listless soul has a shuffling gait. The villain walks with stealthy tread. The plodding mind is enclosed in a lumbering frame. The dilettante walks with finicking, the invalid with careful step. A restless spirit betrays

A fine example of harmonic poise, from "Gesture and Pantomimic Action" by Florence Fowle Adams (E. S. Werner, pub.). If educators understood harmonic poise, they could guard their pupils from lateral curvature so common among children.

itself in nervous manners, while a walk of quiet dignity betokens a well-balanced soul.

Since the ideal of grace lies in the perfection of organization, the physical manifestation of a mind which has attained self-control ought to be graceful. Ideally this is the case, but, the ideal of a sound mind in a sound body is rarely if ever realized. Either the mind is out of balance or the muscles are not the obedient servants of the will. There are musicians who keenly appreciate the power of music to whom utterance is impossible because the fingers and voice have been untrained to expression of inward harmony. There are artists who through technical ignorance cannot adequately represent their yearnings for the beautiful. So there are graceful souls whose bodies lack the power to express the inward peace. While the secret of graceful motion lies deep in the heart, the physical manifestation is modified by outward conditions. Physical weakness, conventional education, nervous sensitiveness, muscle-binding labor, all these may trammel the expression of a pure and unaffected mind. The first work in the study of motion is to secure muscular abnegation. The body must be as flexible as that of a little child. All unnatural contractions must be overcome.

When freedom has been gained, the student is taught the highest and most economical use of the body. Just this, and nothing more, is meant by ease of movement, precision of movement, and harmony of movement, and these are the elements of grace. Self-possession, not self-consciousness, comes when the body is brought back from strained and acquired habits to its true bearing. We might object to the study of the piano that it will lead to self-consciousness. The novice at the piano is painfully conscious of hands and fingers until the right touch is learned and flexibility has been acquired through practice. When this is gained, the fingers glide over the keys without thought. Or we might say that the proper management of the voice in singing and reading is intuitive, therefore to study voice-culture leads to mannerism and artificiality. The fact remains that the singer and the elocutionist must acquire natural methods of singing and reading by years of practice. We are self-conscious when we do not know the use of the body. As soon as muscular control has been gained, awkwardness and self-consciousness are at an end.

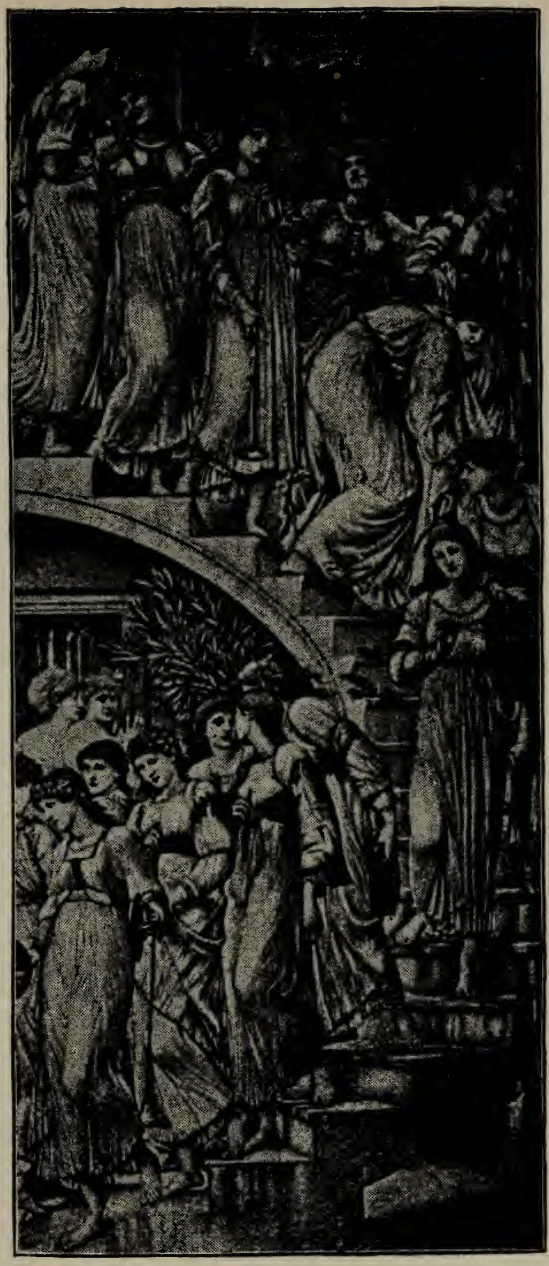
In the study of motion, grace is not the end to be sought. The purpose is to learn the natural,

which is the right, use of the body; grace follows as the result. Grace is only another name for physical and moral rectitude. Exterior grace is an aid to internal grace, because the body and soul work together as a unit. It is impossible to influence one without influencing the other. In our houses of correction the mind of a dullard is reached by giving him exercises which require manual dexterity. To force a calm exterior in a moment of passion reacts on the soul and is the beginning of internal peace. To force the walk into quietness when the mind is in a state of excitement helps to restore mental equilibrium. "How can we learn repose of mind if we have not repose of muscle?"

The curved line is the line of beauty in motion as in form. The swaying, undulating rhythm may be seen in the motion of every leaf, in the flight of the bird, in the ripple of the gentle stream, and in the wave of the ocean. A straight line in motion expresses force, fact, antagonism, hate. Delsarte discovered that, when the higher emotions take possession of the soul, movement is always in curves. He believed that the converse of this is also true, and that by teaching the body to move in curves the higher emotions are suggested. As the

ideal of grace lies in physical and mental balance, we see that the study of motion is not an occult art, open only to those who can practice rhythmic exercises. Graceful motion will come in proportion as we grow into loving sympathy with our fellow-men, and as the lower nature ceases to have dominion over us.

Motion in animal life is a complex thing, which involves the play and co-ordination of every part of the body. Each muscle must have free play and work independently, yet balancing with the others. Motion-harmony, like color-harmony, is of a high order only when it involves indescribable shades. For this reason grace of motion is not possible when the muscles are constricted. In civilized woman the physical manifestation of inward self-control is circumscribed by dress. However free may be her soul, there can be no bodily expression of freedom. Moreover, the principal restriction comes at the crucial point where grace demands absolute liberty. The spinal column is the pivot on which the body should freely swing. To secure this free action on the spinal column, nature has purposely left all the parts about the waist soft and without bones. The spinal column itself is made flexible by its numerous joints.



THE GOLDEN STAIRS. BY E. BURNE-JONES.

A study in grace of form and subtlety of motion.

Miss Call says: "Each vertebra should be so distinctly and individually independent from every other, that the spine is like the toy snakes, jointed so that we take the tail with the fingers and it waves in all directions. Most of us have spinal columns which more or less resemble ramrods."

The unyielding enclosure of the corset causes an atrophy of all the muscles of support and reduces the soft pliable portion to a rigid mass. The effect is the same whether the corset is tight or loose, or the bodice heavily boned. The corset gives to the waist the same awkwardness which is produced in the neck when it is closely bandaged, or when one is afflicted with stiff neck. There is always an appearance of difficulty of movement which is fatal to grace. A teacher of physical culture says: "It is chiefly at the waist-line that women are found in need of development, and for them grace of motion means flexibility at the waist." For this reason the student is required to give constant practice to exercises which secure suppleness to the waist. Constraint at the waist means constraint of the whole body. The delicate balancing of the body which forms the great charm of motion is entirely lost by the paralysis of the torso. Walking degenerates into wabbling through the weakness of the

muscles of the calf of the leg and the binding of petticoats. Tight gloves, tight sleeves, high collars, rob the body of all power of expression. The rigidity of dress makes the muscles work as a mass. Independent action is impossible. Motion is in angles and jerks. All the delicate, imperceptible, rippling movements which are the poetry of motion are impossible.

The popular opinion that women are more graceful than men is fallacious. They have a more dexterous use of the fingers, because their work requires deft touches. Meaningless inflections of the wrist and fingers do not, however, constitute grace. Contrast the freedom with which a man walks and the constrained gate of the female pedestrian. In running she is actually an object of ridicule. In throwing she is so awkward that her constrained movements are said to be due to a peculiar formation of the clavicle. It is not the anatomy of a woman which places her at such a disadvantage. The stiff motions are caused by dress. The interest which women have of late taken in athletic games proves that there is no peculiar clavicular formation. She has been known to throw as swift ball as her brother.

Contrast the gestures of a male and female

orator. A man, catching the inspiration of his subject, forgets his body, and every muscle contributes to the expression of thought. The woman, braced in tight clothes, can only enter into the subject with the tips of her fingers. A gesture beyond the forearm is rare.

Women devote much time to the cosmetics of beauty. The rather should we correct that depravity of taste which constrains nature; cultivating the physical strength and the beauty of character which make grace inevitable.

CHAPTER XV.

ART PRINCIPLES APPLIED TO DRESS.

"The change of fashions is the tax that the industry of the poor levies on the vanity of the rich."—*Chamfort.*

"Art in dress disappeared with the manufacture of the needle and scissors."—*Henrietta Russell.*

THE failure of reformers who have appealed only to the conscience of women shows that correct dress will be adopted only when it is made beautiful. It is notorious that in matters of dress conscience is always sacrificed to taste. The world is not ready for radical changes, much less for changes in the direction of the uncouth. To approach the subject of dress by an appeal to the beautiful is not presenting an unworthy motive, for the beautiful is always at one with both health and conscience.

While every intelligent soul craves the beautiful, there is great confusion as to what is beautiful. The multitude blindly follow fashions which are

inaugurated by avarice, caprice, and accident. Fashions are largely due to the cupidity of tradesmen whose craft depends on the vanity of the female heart. Human ingenuity is never exhausted in producing fabrics of exquisite texture and color, laces of finest pattern, ribbon of every shade, jewels of rare design. These, with cheap imitations, are flaunted in the shop-window to lure female barter through female vanity. The bait is seized by every daughter of Eve—my lady of lavish purse, and the poor wage-earner whose scant hire hardly suffices to meet the necessities of life. It is understood that "between manufacturers, dealers, and pattern-makers is a co-operative system, and that 'women have become the victims of trade.'"

The woman who is dressed in the latest style, however unbecoming, is considered well dressed. That a stylish dress is in no sense a beautiful dress is proved by the fact that when out of date it is outré and grotesque. Could the woman who is always stylishly dressed make a collection of gowns which have been worn during a period of twenty years, she would have an absurd array. Yet each of them was in its day deemed beautiful. Public taste will never be educated while it follows an aimless caprice and the dictates of trades-unions.

Intelligent thought must be given to the needs of the body and to the laws which govern art in other departments. Taste must be educated by those who have gained, through the study of the beautiful, the power of discrimination. Gowns made in accordance with artistic principles are never out of date, for the beautiful is eternal—the same yesterday, to-day, and forever.

Art is practical and logical. It has been defined as common sense. Artistic dress is common sense in dress. An artistic gown is, first of all, comfortable; in form, texture, and color it is adapted to the build, complexion, and character of the wearer. Its structure never depends upon "the latest style," nor upon "what is worn," but upon what is becoming.

It would be easy and pleasant if some trusted connoisseur could formulate a set of rules by which we might manufacture artistic gowns, just as our milliners and modistes manufacture conventional gowns. This can never be done, for the reason that individuality is the chief point in artistic dress. One cannot give a recipe for an artistic garment as for a plum-pudding. All the highest and best things are beyond the scope of rules. We can only study the philosophy of dress with a view

to an independent application of its principles. Guided by these principles, we shall never be led into the bizarre or absurd.

Conventional dress has steadfastly ignored the laws of health and beauty. It thrusts the same mould upon women of every age, size, complexion, and build. The aim is "the display of adornment, not the decoration of the human figure, which is hidden away contemptuously, and serves as the wooden and padded frames in a milliner's show-room. Nothing can be less satisfactory or less artistic than the system that now reigns of loading the figure with clothes, the aim being to use the figure to display the clothes and not the clothes to display the figure."

The principles from which the laws of dress are derived are found in the structure of the human form, and, until we have learned to appreciate the functions and beauty of the body, no advance can be made in its vesture. Conventional dress has divided the feminine form into two distinct sections; the trunk, which is encased in a bodice, and the legs, which are transformed by stiff petticoats and skirts into a solid, immovable mass, sometimes resembling in outline a beehive, sometimes a bell, sometimes a fan, sometimes a donkey with pan-

niers. The first mistake is the arbitrary division of the body into sections. We must endeavor to think of it as one and indivisible; there is no waist-line in the body, and therefore the mantua-maker has no right to make one in gowns. The conventional bodice contradicts the laws of nature, because it confines a mobile trunk and an elastic skin in an unyielding, inelastic casing. This is accomplished by cutting the back of the bodice into ugly, geometric shapes, known as "forms," which are then carefully pieced together after the manner of a patchwork bed-quilt. The front of the bodice is tightly drawn over the chest and fitted under the bust and over the abdomen by biasses and darts. This device, when elaborately boned, is tortured together by hooks or buttons, suggestive of a surgeon's feat in splintering. The beauty of the textile is lost by this process. The shopkeeper, if he would sell his goods, does not display meagre clippings, but is careful to arrange them in soft folds which display the beauty of light and shade. A tight bodice destroys the flexibility of the trunk and prevents the delicate play of the muscles.

The clothing of the lower portion of the body is based upon another false principle. It ignores the natural outline of the legs and the laws of motion.

AN EVENING DRESS.

This gown conforms to the laws of health, yet is not unlike prevailing styles. The design may be of service to those who prefer conventional usage.

Mr. Percy Fitzgerald, in the *London Art Journal*, gives us the principle which regulates the clothing of the lower limbs: "The whole conception of the human figure, it will be found, is connected with the idea of motion; the solid portion or trunk being raised above the ground and balanced, as it were, on the two extremities, on which it is supported alternately. The lower limbs are therefore as much in motion as the arms; all dress, therefore, should be conceived on the principle of this airiness, and anything that should convey the idea that the lower part of the frame was as solid as the trunk would be false. But this is what is done on the present system, where a solid pyramidal structure moves along, worked by some interior machinery. Nothing more ungainly can be conceived than this attempt at motion under a cage or framing of buckram, which really conveys the idea of a series of awkward kickings. . . . Were this detestable and unbecoming armor away, the dress would fall about the figure in full folds of sufficient thickness and abundance for warmth and convenience, or of such amount as to convey the idea that the lower limbs are there with a dress or covering over them. That such is the true principle there can be no doubt. . . . In classic models the dress from the

waist to the feet takes the outline really of a long oval or fish-shape. The draperies fall into elegant curves, and the whole is pleasing to the eye as compared with the triangular outlines of our own times. . . . The aim of clothing should be *not a figure cased in clothes, each portion being accurately fitted with a case of its own, from the neck to the feet, but a draped figure.*"

It is objected to this conception of woman's dress as a drapery, instead of a second skin, that the beautiful curves of the body are lost. This objection ignores the fact that the curves and lines of fashionable dress are not the curves and lines of nature, but of a falsified body, and that delicate motions are impossible in a tight casing.

The beauty of Grecian dress, while above the reach of criticism and of changing fashion, does not meet the needs of our climate and of our civilization. Yet the study of classic art helps to correct our perverted ideas of form and drapery. In classic art we find no precedent for the modern idea of producing "a fine figure;" the form is suggested but not defined. We get no hint of "a tidy fit," nor that a stout woman's apparent bulk is decreased by tight clothing. From head to heels dress is one and indivisible. The nearest approach

to a waist is made by confining the fulness which starts from the neck by means of a soft girdle under the bust and shoulders. A girdle at this point gives greater length and elegance to the limbs and bisects the form less than the modern waist-line, which is placed at the narrowest diameter of the trunk.

The drapery of antique art falls from the shoulders, and the hips serve as natural points of support. Falling from the shoulders and hips, drapery takes the long curves parallel to the direction of the figure, which harmonize with the erect structure of the body. It is a rule of art that parallelism produces the greatest beauty in line. For this reason, horizontal stripes and trimmings should be carefully avoided, and a girdle or a scarf should harmonize, not contrast, with the color of the gown, in order to be unobtrusive.

The woman who would be well dressed must keep constantly in mind the long, oval contour of the feminine figure and dress so that this outline will be preserved. The unnecessary seams and darts of the conventional dressmaker must be avoided or concealed. Festoons and draperies should be disposed with reference to the points of radiation in the body, the hips and shoulders.

It may not be always practicable in modern dress to have no dividing line between waist and skirt, but there should be an endeavor to preserve the appearance of unity. The division of the gown into basques and over-skirts, and the use of many different materials, is particularly opposed to the idea of unity, and cuts the body into sections which seem to move in distinct and unrelated parts.

Much which is considered as handsome attire awakens in the artist only pity and contempt. He makes war against any form of dress which destroys the true proportions of the body, interferes with its delicate poise or free motion. In this vocabulary may be classed the high, tight collar, which makes the neck immovable, and the glove-fitting bodice, which destroys the flexibility of the trunk. The artist condemns street wraps so constructed that the arms must be held as if pinioned to the sides; tight sleeves, which make the arms look like stuffed sausages and move like pump-handles; sleeves which are puffed high on the shoulders or are of the balloon type, because they contradict the natural line of the arm; tight gloves, which give to the fingers the expression of jointed sticks; tight, high-heeled shoes and heavy skirts

From *The Magazine of Art*, CASSELL PUBLISHING COMPANY.

RADIATING CURVES SHOWN IN WING OF BIRD AND SHELL. BY WALTER CRANE.

Radiation in Nature, a controlling principle in design, is illustrated here. The lines in the wing and shell spring from a common center. The point of radiation is the center of strength.

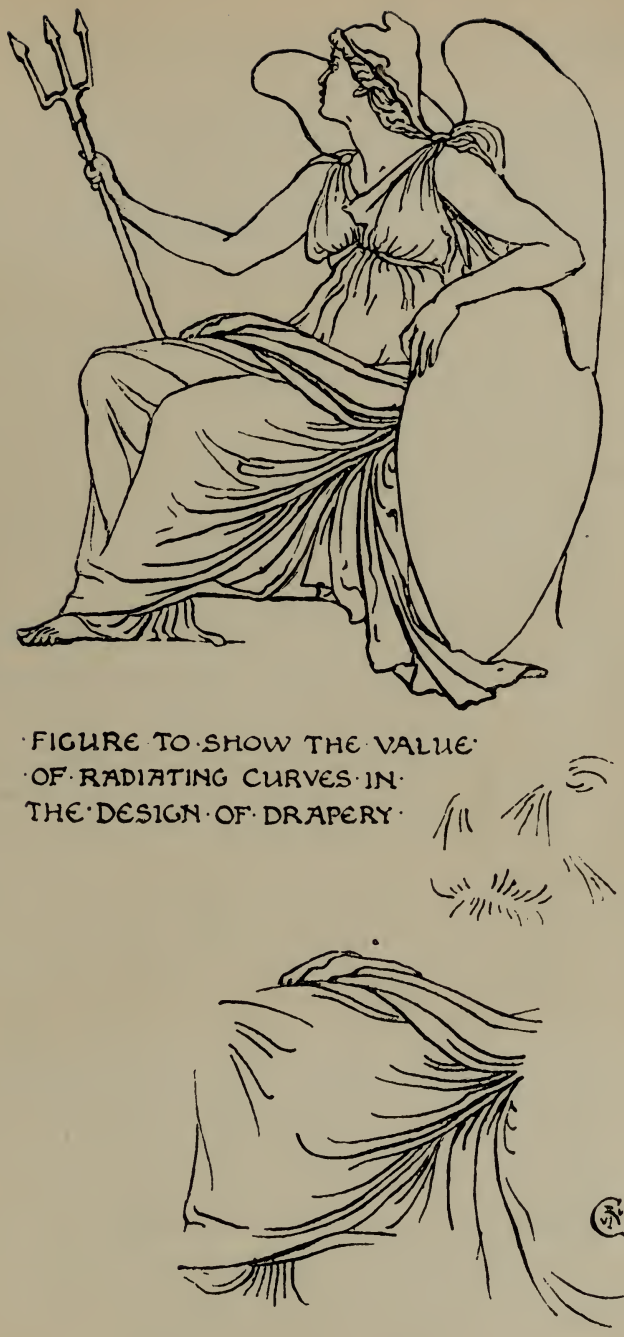


FIGURE TO SHOW THE VALUE OF RADIATING CURVES IN THE DESIGN OF DRAPERY. BY WALTER CRANE (IN "THE MAGAZINE OF ART").

In this design the drapery radiates from the shoulders, ribs, and hips, which are centers of vitality and strength.

with restricting draperies, which prevent easy and graceful walking; long skirts for the street, which must either catch the filth of the sidewalk or be clumsily carried in the hands; the muff, which necessitates a strained attitude and prevents the natural swing of the arms in walking; any kind of bustle, hoop or reed, which dehumanizes the figure; shoulder-trimmings which extend beyond the shoulders and make them seem broader than the hips; unnecessary and arbitrary seams in waist-forms, and trimmings that emphasize these forms; belts that are like bands and give a sliced look to the figure. Starched petticoats, canvas linings, and whalebones are utterly inartistic.

The neck of the gown should follow the line where the neck joins the body. The sleeves should follow the line where the arms join the shoulder or spread from the neck into the shoulder. The waist should fall in folds or gathers from the neck or shoulders, or "be, in fact, a bit of fabric draped about in soft clinging lines." The belt should be a soft sash loosely adjusted under the bust; a collar should be of soft material and fall from an under-waist over the neck of the dress in full lines. The skirt should drop in natural folds following the outline of the body. To produce the best

effect the skirt should be unlined and the petticoat or foundation should be of soft material. A gown *en traine* is considered graceful for the drawing-room, but is an offence to the busy woman. The least objectionable gloves are of silk or undressed kid; for winter they should be of warm material.

The woman who would be well dressed has no use for fashion-plates. Her text-books are the works of ancient and modern sculpture; the classicism of Flaxman, Canova, and David; the study of picturesque art. We must, however, distinguish between pictures which are historical and those which are ideal. The works of Paul Veronese, for example, represent the dress of a bad period of art. The costumes of great masters, however good, are, moreover, not to be servilely copied. Cold and formal imitation may well be left to the Chinese. These works are simply studies for the cultivation of individual taste. Guided by such studies we shall be able to fashion dress without reference to fashion, yet in a becoming and pleasing manner.

It is obvious that few women have opportunity or leisure for individual study and culture. With many there can be only a modification of prevailing styles, or perhaps even an unwilling acceptance. Much has been accomplished when the slave is

made conscious of his chains, though not a rivet is broken. Much has been accomplished when we see the stupidity and atrocity of fashionable dress. Our hope is that the time will come when, through the culture of the few, the many may be led away from perversion of form and imbecility of adornment. A practical difficulty in the way of better dress is the ignorance and tyranny of the dressmaking craft. The dressmaker is fettered in the bonds of conventionalism, and even those who style themselves artistic are entirely ignorant of art principles. The customer who ignores prevailing styles is looked upon with scorn and disapproval. As it is always more difficult to move out of the beaten highway, many dressmakers absolutely refuse to work for those who will not accept conventional forms.

The choice of textures is governed by the figure of the wearer. Mr. Russell says: "A slight willowy figure, in constant motion, may wear soft stuff and clinging draperies. A stout woman should wear something in harmony with her bulk—clothes that take heavy folds suggestive of dignity and calm. If stout women would learn to move in grand, slow rhythm and wear textures so heavy that the lines of their figures were concealed, they would have a

grandeur and dignity that no slender woman could hope to attain." A texture which is wiry, harsh, and stiff suits neither the slight nor stout.

The effectiveness of dress depends greatly on the delicacy and harmony of its colors. In the study of colors we can learn directly from nature's school of art. Here the eye may be trained to the truest color-sense. In the bark of the oak and the beech tree and on the moss-covered fence we see rare combinations of gray; dull russet effects in autumn leaf and sedge. The study of minerals and shells affords exquisite bits of coloring, while flowers, fruit, moths, butterflies, and birds continue the endless scale. The practical difficulty is to harmonize nature's schemes of color with the complexion of the wearer. The color of the dress must be of "the same palette" as the complexion. The artist's rule is, "Choose only those tints of which a duplicate may be found in the hair, the eyes, or the complexion. A woman with blue-gray eyes and a thin, neutral-tinted complexion is never more becomingly dressed than in the blue shades in which gray is mixed, for in these complexions there is a certain delicate blueness. A brunette is never so exquisite as in cream-color, for she has reproduced the tinting of her skin in her dress." Mr. Russell

condemns the general use of black: "Black makes the flesh look a little white by contrast, but it deepens the shadows in the face and brings lines into bolder relief. The only people who look well in black are those who are fair and plump, with no lines, no cares, in their faces. A woman over forty should never wear black. Old ladies should not wear black, but soft gray colors. A woman with black eyes and hair may wear gray trimmed with black." The most delicate and refined coloring is produced by harmony. Contrast is violent and showy, and must therefore be sparingly used.

In the ornamentation of dress we must guard against over-elaboration, which always suggests weakness. Simplicity is a canon of art, but the last accepted by the multitude, because of our foolish pride and self-assertion. Simplicity is beautiful, because it is easily understood. Mazes of folds, ruffles, festoons, draperies, and jewels produce a crowded effect; there is no point of rest. We must also be truthful and honest in ornamentation. Our decorations are often an idle display and serve no purpose. Trimming depends entirely upon the structure of dress, and nothing which simulates form is admissible, as, for example, braid sewed on to imitate a cuff or vest when there is neither cuff

nor vest. All artists denounce the button that buttons nothing and the bow that ties nothing. Ruskin says: "You must not buy yards of useless material to make a knot or a flounce of, nor to drag behind you on the floor." This rule does not reduce us to Puritan severity. The structure of dress usually demands some adornment. The neck of the gown, the termination of the sleeve, the edge of a drapery, often requires adornment to give a finished appearance. A bow, a knot of ribbon, a feather, a jewel, may have its appropriate and legitimate use. In America the pocket-handkerchief is used as a decorative object. It is the vehicle for displaying a bit of color, delicate embroidery, or lace. It is said that the French, with a truer sense of the fitness of things, make the handkerchief as inconspicuous as possible. Its function assigns it to an unobtrusive place. Equally objectionable is the custom of ornamenting the face with bits of black court-plaster, in order by contrast to show the whiteness of the complexion. The court-plaster always suggests a blemish of the skin and an attempt to conceal it. Powdered hair is never beautiful, because it is never in harmony with the complexion.

Simplicity in adornment relieves us from vulgar

displays of jewelry. Jewels used to fasten or finish a part of the dress are pleasing; used with no such purpose they have been justly called "imbecile ornamentation." Jewelry worn on the person is more objectionable than when attached to the dress. Ear-rings and bracelets are classed with idle decorations, and the bejewelled hand suggests the barbaric. As we develop a higher form of civilization, they must yield to the logic of events and disappear. The use of jewels is usually indiscriminate in its relation to the color and character of the gown. The emerald, sapphire, topaz, and diamond blaze in a kind of medley with textiles of every hue and fabric. Less jewelry and that which harmonizes with the color of the gown is the artistic rule. Diamonds, the favorite gem of American women, are condemned on account of their "excessive brilliancy and hardness of light."

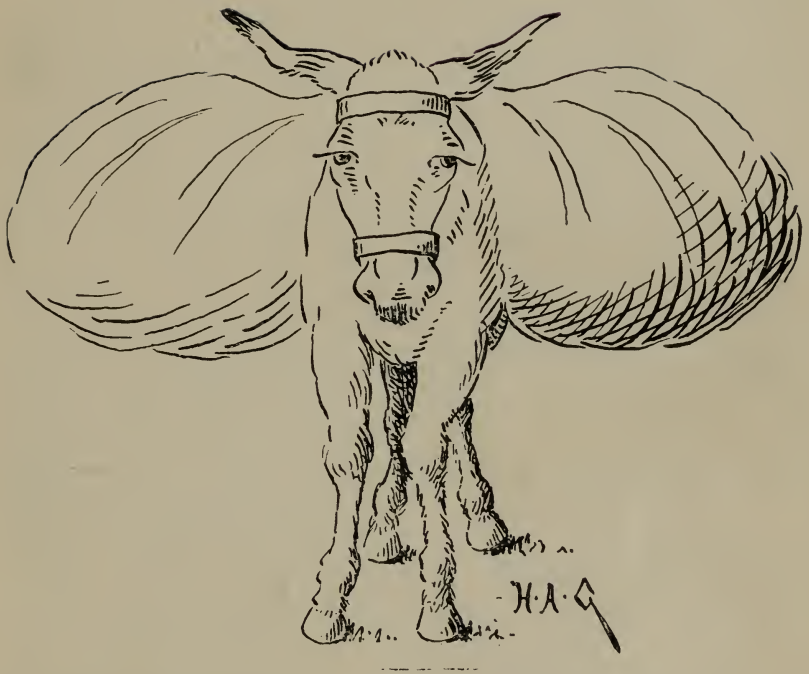
The principles which regulate coiffure may be learned by the consideration of the object or function of the hair. "This," Mr. Fitzgerald says, "is at once useful and ornamental. It is to be a covering for the head as well as a set-off for the face. The face is the most important part, to which the whole figure should be subordinate; but even more subordinate should be the hair. Nothing is more

pleasing when properly treated than the hair, especially in that softening off towards the edges which lends such an effect. Each hair of the head offers light and shade and has a variety of surface and color; the boundary, too, is softened away by the hair being thinner at the edge—a point where wigs all fail, betraying themselves by a coarse and abrupt line, causing a harsh contrast and being too strong in tone for the delicacy of the face. This beautiful material then, the natural covering and adornment of the human head, is worthy of being employed to a higher use than that of setting off ribbons, jewels, masses of flowers, and such like."

It is impossible to dress the hair without in some way concealing the beautiful shape of the head. The upper part of the head is the place of honor; it is the seat of the organs of reverence; it therefore seems fitting that this part of the head should not be sacrificed by coiffure. The height of the body is not augmented by piling the hair on top of the head, and the effort to increase stature by this means makes the short person look shorter. The median line which divides the body into two equal parts suggests that the middle of the head is the normal line of division of the hair. When the hair is brushed straight back the soft shading of the

HOOP-SKIRT "AUX PANIERS."

A specimen of conventional beauty.



THE ANIMAL FROM WHICH THE AFORESAID STYLE TOOK ITS NAME.

The hoop-skirt "aux paniers" is an example of the absurd styles which Paris fashion-makers have offered an unresisting people in the name of the beautiful. Oh, if our women would only learn that Paris fashions are not necessarily beautiful! Excesses in dress have always attended periods of pitiful ignorance. In the time of Queen Anne, when this style of crinoline was in vogue, the votaries of fashion scorned the thought of education for women. Addison and Steele were the first to suggest that women might read, write, and spell correctly without losing their place in society.

face is lost and a bold appearance is given. Neither should the hair be drawn, as in the present style, carefully up from the neck. This also is a harsh disposition, as it reverses the natural direction, and suggests an uncomfortable pulling of the hair. The hair naturally falls, and the cluster should be at the point where the coil can be supported by the gathering up of the hair on itself. There is a great deal of truth in Mr. Russell's suggestion that character is shown by the arrangement of the hair. Worn low on the neck it indicates a romantic nature; a little higher, it shows a domestic turn of mind; at the crown of the head, which is the classic style, the intellectual is suggested; and worn on top it is stylish.

The shape of bonnets and hats depends greatly on the disposition of the hair. Again we quote from Mr. Fitzgerald: "We should always have in mind the functions which these coverings must fulfil. They are not adornments. The purpose of a bonnet is to keep the head warm, and that of a hat, which is a summer covering, is mainly to fence off the rays of the sun. The width of the brim should be regulated by its intended function. All excess is unmeaning. Tall and peaked crowns which rise at an angle from the brims have somehow a

stiff air; the surface of a crown and brim should be one, the brim being no more than the edge of the crown a little prolonged. When the true system is carried out, what is presented is the head with a cover; whereas under the false system it is a covering supported by a head; the covering has no relation to the head, and claims attention on its own merits. Indeed it is scarcely fair to criticise the existing coverings, which honestly do not strictly pertain to any useful end, but are no more than ornaments carried on the head. Instead of the head being the point of honor, the apex of intelligence, which it is the function of the body to carry and to be subsidiary to, the interest is transferred to a mass of inanimate matter, which becomes the point of attention." Oscar Wilde recommends soft felt hats for both summer and winter wear. No striking color should ever decorate the front of the hat. It puts the complexion to an unnecessary test, and diverts the eye from the face, the true point of interest. An artist would say, it throws the picture out of focus.

It will be asked, of what advantage is artistic dress over conventional, since it demands study and thought? We would save time by going to the mantua-maker and dressing in the style which

fashion determines, without the trouble of individual thought. Women who have a high purpose in life, and who despise the fashion-book, yet give it a passive acceptance because they feel that such study is unworthy. Yet beauty in dress ought not to be considered a trivial subject, since it is the avenue to a healthful, self-respecting, God-reverencing womanhood.

Dress is not now ranked among the nobler arts. It never can be while it is conventional. Since it is of all arts the most difficult, its study ought not to be beneath the genius of our great artists. The study of art in dress has a higher value than being an end in itself. By it the student is brought into sympathy with the art world. Through it we may teach simplicity, nobility, purity, refinement, and reverence of nature. Art principles applied to dress relieve us of ostentation, pretence, and folly of ornament, and from the belittling influence of the tyranny of fashion. Conformity to conventional usages, as a principle of action, has a debasing influence on the character. Non-conformity, even in dress, awakens a spirit of inventiveness and begets liberty of thought.

The laws of art in dress are discerned only when we have learned to honor God's thought in the for-

mation of the human body, and as the sensibilities are chastened and refined. When we have caught the truly artistic thought, we see that it is one with the spiritual. Paul spoke as an artist as well as a prophet: "Not the outward adorning and plaiting of hair and of wearing of gold, or of putting on of apparel, but the adornment of a meek and quiet spirit."

CHAPTER XVI.

THE MORAL SIGNIFICANCE OF DRESS.

"Fashion has its value as a moral sign-post, and supplies the historian, the philosopher, and the novelist with a guide to the prevailing ideas of the time."

"The enormities of female attire have reached a point to which it is not morally right for a conscientious woman to conform."

THE story of Eden represents the apron of fig-leaves as the device of a guilty conscience. The evolutionist, on the contrary, regards the first crude attempt at garments as an indication of progress, marking the development of the brute into a higher and intellectual order of being. Whether man is by nature a naked or a clothed animal, it is certain that clothes are an important part, not only of civilization, but of our individuality. Professor William James, in his principles of "Psychology," says: "The body is the innermost part of the

material self in each of us. The clothes come next. The old saying that the human person is composed of three parts—soul, body, and clothes—is more than a joke. We so appropriate our clothes and identify ourselves with them that there are few of us who, if asked to chose between having a beautiful body clad in raiment perpetually shabby and unclean, and having an ugly and blemished form always spotlessly attired, would not hesitate a moment before making a decisive reply."

It is always assumed that love of adornment and display is a folly peculiar to women. The analogy of nature leads to the conclusion that display is more distinctively masculine than feminine. Among birds the male, the courter, has a brilliant coloring, while the female is comparatively colorless. The same is true of many animals. In the insect world the male is often beautifully marked, and in certain species of fish he is distinguished by ornamental appendages. Among savage races the male is decked in feathers, beads, and war-paint, the female unadorned. The history of costume shows that there have been as many absurdities among men as women. The tight corsets, complicated hair-dressing, starched ruffs, buckram stuffings, monstrous tuberosities, scarlet velvet, gold embroideries, long,

graceful plumes, costly jewels, and gorgeous knee-buckles of male attire reveal the fact that men have sacrificed comfort and money to gratify personal vanity.

The history of savage tribes proves that dress has developed from decoration. Neither the need of protection nor feelings of modesty have prompted the covering of the body, but the crude beginning has been the desire for ornament. Herbert Spencer tells us of the Orinoco Indian, "who, though quite regardless of bodily comfort, will yet labor for a fortnight to purchase pigment wherewith to make himself admired; and the same woman, who would not hesitate to leave her hut without a fragment of clothing on, would not commit such a breach of decorum as to go out unpainted." Still more forcible is the account of Africans, who "strutted about in their goat-skin mantles when the weather was fine, but, when it was not, folded them up and went about naked, shivering in the rain."

Displays in dress characterize a savage race. The bejewelled and bedizened toilet of many civilized women recalls the porcupine quills, feathers, eagle plumage, and necklace of bear-claws with which the savage adorns his person. The intri-

cacies of lace and puffs of the modern overdressed woman are not a difference in kind, but simply of method, from the gorgeous adornment of her savage progenitors. A purer taste is the result and the index of a higher phase of development.

Style of dress is an unfailing indication of the stage of civilization to which a nation has attained. In applying this law to the individual we readily see that the character of the dress is the external sign of the social, intellectual, and moral status of the wearer. The wardrobe indicates neatness, order, modesty, gentleness, elegance, and refinement, or untidiness, disorder, immodesty, ostentation, extravagance, and vulgarity. The taste and character of a woman may be read in the color, texture, and cut of the bodice, just as Cuvier, with a single bone, could build up the animal to which it must belong. Poets, philosophers, and painters in all ages have recognized the moral qualities of dress. Innocence and chastity are portrayed in robes of lily-white. The harlot is represented in "purple and scarlet color, and decked in gold and precious stones and pearls." The true nature always betrays itself in its wardrobe. Queen Elizabeth appears to the casual reader as a woman of wonderful insight and personal bravery. One glimpse at her

DESIGN BY E. T. JEWETT.

The Savage Progenitor.

DESIGN BY E. T. JEWETT.

Not a difference in kind but simply of method.

wardrobe, its stomachers, its farthingales, and its eighty wigs, reveals her real character—a weak, immoral, vain, capricious woman. Bacon, the philosopher, the intellectual prodigy, shows himself in the prickly pillory of his ruff and in his trunk-hose "a man whose moral dignity was not on a level with his intellectual penetration." Cromwell, inspired with the noble and disinterested purpose of rescuing his country from the hands of tyranny, appeared in Parliament in yeoman costume. When success had turned his head and personal ambition had taken possession of his soul, the change of heart was seen in his personal appearance. That he secretly coveted kingly power was shown in the courtly garments with which he arrayed himself.

These illustrations of the sympathy between costume and the soul are repeated on a larger scale in the history of nations. National life begins in freedom, simplicity, self-denial, and vigor. As power and affluence are gained, luxuriousness, enervating habits, tyranny, sap the life-blood. When the consummation of self-indulgence and oppression is reached, the end comes in destruction. The nation is purged through the horrors of pestilence and war. These times of excess have

been marked by voluptuousness and extravagance in dress. Prophets and philosophers have uttered their warnings and entreaties against "these outward signs of an inward spiritual curse," and have seen in them the portent of impending doom. When purity has been restored through the castigation of suffering, the reaction has always shown itself in simplicity of dress. This is the story of ancient, mediæval, and modern history. The study of national dress is a pitiful comment on human progress, hardly less sickening than the study of its wars and rapine.

Often state legislation has interposed to abate extravagance. The attempt has always been a failure, because legislation has been directed, not really at extravagance, but at the preservation of class distinctions. No yeoman could wear furs other than those of otters, foxes, and conies. No woman under the degree of knight's daughter or wife might wear corse wrought with gold. A certain class could not wear silk and laces. Women not of noble rank were forbidden to wear velvet hoods, *et cetera, et cetera.* Human nature has always rebelled at such arbitrary distinctions and found a way to evade them. Sumptuary laws will never regulate dress. It can only be reached

through an enlightened conscience. Are we not, then, approaching the subject by a wrong method in undertaking an external change? Why not work at the heart, and when that is enlightened the apparel will take care of itself? This is the scientific method. It is also the moral and spiritual method. Women will never come into a correct style of dress through a change of fashion, but through moral restoration and instruction in its application to the practical affairs of life. The fundamental principle of the crusade against irrational dress is one with the crusade against intemperance—a pure soul in a pure body. Being a moral issue, the evolution of this reform is a slow and painful process. Dress is a part of the woman question. It does not savor of the ballot-box, but it does savor of liberty of thought. The slavish following of fashion-plates stifles all originality, inventiveness, and æsthetic perception. Those who have emancipated themselves from the bondage of conventional dress have liberty of thought in other directions.

While originally the love of personal adornment was common to both sexes, it must be admitted that it is now the monopoly of the fair sex. Vanity and the display of personal beauty are besetting sins. To gratify this passion the poor girl

often sells her own soul, while her more favored sister sacrifices it to the trivialities of shopping and social parade. Even intelligent women put adornment before comfort, and belittle the soul by devotion to changing and absurd fashions. These facts are significant,—they point to a low stage of social development. They are a remnant not only of mediæval theology, which regarded woman as an inferior, but also of mediæval sociology, which regarded her as the property and plaything of man. Esther, arraying herself for the critical and sensual eyes of the king, is a type of the modern woman, decking herself in all manner of finery to please the eye of her lord and master, man. It is even now affirmed that the cultivation of personal beauty is the legitimate pursuit of woman, *to the end that she may attract*, and that personal beauty is her chief charm. The true dignity of woman will never be appreciated while it is held that her aim should be to attract and to enslave by attracting. Inordinate love of admiration is always the sign of degradation of character. The lowest round of this degradation is reached when admiration is sought by displays of physical beauty.

The same desire for approbation and display may be traced in the education of women. Accomplish-

ments which attract take the place of substantial, practical, and scientific training. There is no heresy which women ought to fight more persistently than this sophistry of personal beauty and adornment as a means for social advancement. Satan skilfully deceives even the elect lady, and piously exhorts women to adopt a charming toilet in order to make home attractive. We are advised, on rainy days especially, to don gowns of brilliant hue, and bows of gorgeous color, to gladden the heart of husband and son who come in jaded from a day of toil. Could advice be more absurd! It is a sweet, cheerful, intelligent soul that makes a happy home. If women do not possess this, they may array themselves in all the hues of the rainbow, and home will not be attractive. Tired husbands are not rested by red bows; recreant husbands and wayward sons are not kept at home by millinery arts.

The cultivation of beauty is legitimate for man and woman when it is sought as the expression of intelligence and lofty ideals. The laws of external beauty follow as a corollary of inward beauty of the spirit. There is no surer way to destroy real beauty than to delight in personal charms. The smirk of self-consciousness, the smile of self-approbation, will mar the most perfect features and the

most exquisite coloring. No one who is simple and pure at heart can study personal beauty or adornment from motives of personal vanity or with the thought of drawing the attention of others.

Physical beauty as the manifestation of physical and moral rectitude is quite different from physical beauty as a lure for social advancement. Our fashions originate among the frivolous if not shameless classes of the Old World, who have no true moral sense and whose aim is sensual attraction. They are accepted by all classes of American society, and so sensual dress becomes the garb of the respectable. If we are to be ruled by arbitrary fashions, surely they should be set by those who are pure and true at heart.

In considering the ethics of dress we must study its relation to character, to morality, and to the legitimate use of time and money.

The judgments of science pronounced against woman's dress from a hygienic standpoint are judgments against it from a moral standpoint. The question of ethics concerns the strictures of dress. A shoe which is too tight is a moral loss not simply because it cripples the working power of the brain, but because it makes the mind ever conscious of the body, "by reason of its uncomfortableness."

Mr. B. O. Flower regards as the gravest charge against woman's dress the fact that its stricture produces physical discomforts and disease, "which chain the mind to animality when, unfettered, it should be unfolding in spiritual strength and glory." In the crime against posterity, enfeebled and weakened, body and soul, by the dress of mothers, he counts the moral loss as greatest. "A mother whose thoughts have been voluntarily or involuntarily held in the atmosphere of the physical nature necessarily imparts to her child a legacy of animality which, like the corpse of a dead being, clings to the soul throughout its pilgrimage."

The fashion of petticoats and dress-skirts has had a potent influence in the formation of woman's character.

Miss Frances Cobbe says in the *Contemporary Review*: "It has often been remarked that the sagacity of Romish seminarists is exhibited by their practice of compelling boys destined for the priesthood to flounder along the streets in their long gowns, and never permitting them to cast them aside, or play in the close-fitting clothes wherein English lads enjoy their cricket and foot-ball. The obstruction to free action, though perhaps slight in itself, yet constantly maintained, gradually

tames down the wildest spirits to the level of ecclesiastical decorum."

The heresy of masculine superiority begins in the nursery when the boy attains the dignity of trousers. He rejoices in boyhood, and looks upon petticoats with contempt. He has absolute physical freedom, and can enjoy the active, invigorating exercise upon which courage, independence, and bonhomie largely depend. The little girl looks at her brother with envy, and mourns that she is not a boy. No man would for an instant submit to the bondage and restraint of skirts. Unable to go out of doors except under the condition of favorable weather and social proprieties, woman becomes a kind of hot-house plant in temperament, and develops the traits of physical weakness, irritability, and nervousness. Moralists therefore charge upon the restrictions of dress the fretfulness, ill-temper, and peevishness which darken many households. The question of ethics is concerned in the danger to which petticoats and the stricture of dress expose the wearer. Unable to protect herself in times of peril by running or jumping, dependence and cowardice are inevitable.

Mrs. Phelps Ward comments thus on the iniquity of long skirts: "When I see women stay indoors

ST. CECILIA, BY RAPHAEL.

Observe the easy fall of the drapery and the points from which it radiates, and contrast the round finish of the neck with the high stiff collars of modern dress. There is no appearance of a "tidy fit" or a "trim figure" in the bodice of the St. Cecilia. Her gown is a model which we may safely follow.

the entire forenoon because their morning dresses trail the ground, and indoors all the afternoon because there comes up a shower, and the walking-dress would soak and drabble; or when I see the 'workingwoman' standing at the counter, or at the teacher's desk, from day to dark, in the drenched boots and damp stockings which her muddy skirts, flapping from side to side, have compelled her to endure; when I see her, a few weeks thereafter, going to Dr. Clarke for treatment, as a consequence; when I find, after the most patient experiment, that, in spite of stout rubbers, water proof gaiters, and dress skirt three or four inches from the ground, an 'out-of-door' girl is compelled to a general change of clothing each individual time that she returns from her daily walks in the summer rain; when I see a woman climbing up-stairs with her baby in one arm, and its bowl of bread and milk in the other, and see her tripping on her dress at every stair (if, indeed, baby, bowl, bread, milk, and mother do not go down in universal chaos; it is only from the efforts of long skill and experience on the part of the mother in performing that acrobatic feat); when physicians tell me what fearful jars and strains these sudden jerks of the body from stumbling on the dress-hem

impose upon a woman's intricate organism, and how much less injurious to her a direct *fall* would be than this start and rebound of nerve and muscle, and how the strongest man would suffer from such accidents; and when they further assure me of the amount of calculable injury wrought upon our sex by the weight of skirting brought upon the hips, and by thus making the seat of all the vital energies the pivot of motion and centre of endurance; when I see woman's skirts, the shortest of them, lying (when they sit down) inches deep along the foul floors, which man, in delicate appreciation of our concessions to his fancy in such respects, has inundated with tobacco juice, and from which she sweeps up and carries to her home the germs of stealthy pestilences; when I see a ruddy, romping school-girl, in her first long dress, beginning to avoid coasting on her double-runner, or afraid of the stone walls in the blueberry fields, or standing aloof from the game of ball, or turning sadly away from the ladder which her brother is climbing to the cherry tree, or begging for him to assist her over the gunwale of a boat; when I read of the sinking of steamers at sea, with 'nearly all the women and children on board,' and the accompanying comments, 'every

effort was made to assist the women up the masts and out of danger until help arrived, but *they could not climb*, and we were forced to leave them to their fate ;' or when I hear the wail with which a million lips take up the light words of the loafer on the Portland wharves when the survivors of the *Atlantic* passed : 'Not a woman among them all—my God !'—when I consider these things I feel that I have ceased to deal with blunders in dress and have entered the category of crime. (It is not to be supposed that women properly dressed from infancy, and acquiring the freedom and courage which a proper mode of dress imparts, would have met such a death in such a wholesale manner.)"

It is a travesty on the sacred influence of a mother that her authority should be satirized as petticoat government. Petticoat government will be the synonym of weakness as long as woman's dress incapacitates her for active exertion.

The most deplorable result of this training in helplessness is the spirit of coquetry which has grown out of it. Dependence and cowardice, learned in actual experience, become, in time, the art of diplomacy, for the expert man-charmer will even feign dependence and cowardice in order to tickle masculine vanity.

To the fashion of petticoats we may trace the great difference which educators observe in the concepts of boys and girls. A boy, accustomed to long tramps in the open fields, to out-of-door amusement and avocations, is familiar with the trees and plants of the forest, the song of the wood-bird, varieties of fish, insect and animal life, etc. This early and familiar acquaintance with nature gives him a storehouse of beautiful pictures. It is an object-lesson in physics and biology, and is the beginning of scientific study. A girl naturally has the concepts of the door-yard and lawn. Glimpses of the sky, house-plants, green groceries, canary-birds, are her chief studies in nature. The concepts of a girl's mind depend upon her environment; those of the boy depend upon his environment. Sex has nothing to do with concepts.

It is hardly possible to attend a fashionable ball without a suggestion of the relation of woman's dress to morality. The exposure of person is so unchaste that good men turn away with shame. Mothers and young girls to whom society looks for inspiration in virtue are the butt of coarse joke and witticism. Miss Frances Willard says; "Alas that the time has come when, in the so-called best society of this Christian republic, reputable

ISABELLA, LADY SOMERSET.

women will appear in such costume as makes it difficult for sons and brothers to keep the White Cross pledge! Alas that in this Christian republic organizations for social purity must adopt as one specification of their pledge for women, 'I promise by the help of God to be modest in dress'!"

The great no-dress of society is excused because it is the custom of the social world, since it is custom which establishes the law of modesty in dress. The savage who goes about unclothed is not immodest, while the Oriental woman who goes about with face uncovered is immodest. The universal custom of civilization has established the law that the covering of the body is essential to modesty; the only exceptions to this law are among the demi-monde and among the beau-monde. The former expose the person for base purposes. There can be no exceptions of hours or places which exempt fashionable society from the prevailing law of the land. In that enlightened kingdom where a décolleté dress is necessary for presentation at court, and where a dinner-party and ball call for full dress, which means "the great no-dress," gambling has become the recreation of fashionable life. These are flagrant violations of the law of chastity. There are more subtle and gen-

eral violations of this law in the every-day dress of women. The tailor-made denizen of society is the exponent also of a low state of morals. The tailor-made gown has been regarded by some as a missionary agent, teaching simplicity and freedom from ornamentation. But it is a style which boldly defines the outlines of a falsified body. The Chinese, in their loose sacques, are shocked at the effrontery of Western taste which permits such exaggeration and obtrusiveness.

Allusion has been made to the subject of personal vanity, and this is one of the most subtle questions connected with the ethics of dress. The education of the human race in personal vanity is systematic. It is a part of prenatal culture. The dominant feeling of expectant motherhood during these weeks when every emotion leaves its imprint on the physique and character of the helpless child is not that of high thinking and holy aspiration ; mother-love manifests itself principally upon fashioning a dainty wardrobe and upon the intricacies of a baby-basket.

Mothers are themselves responsible for the vanity which they may deplore in their daughters. The atmosphere of the home is too largely one of perpetual millinery and mantua-making. The

latest fashions are scrupulously followed, while feathers, laces, and jewels complete the toilet of little babies. The dress of young children is often so exquisite that continual caution is necessary to prevent its injury, and play is robbed of spontaneity and activity. A mother who had educated her children to all these punctilities of dress said, "I regret so much the exquisite wardrobe of my little children. I see now that it hurt their character." The dress of little girls should be as simple and substantial as that of boys. Every thing which prevents activity and fosters vanity should be conscientiously avoided. Love of dress is also fostered by the passion for dolls, which is said to be inborn in every right-minded girl. Doll-playing is really doll-dressing. Every bit of gewgaw is eagerly sought to bedeck this miniature travesty of a fine lady. The doll-mother is but a prophecy of the child-mother. If doll-playing is the legitimate occupation of girlhood, we ought to have dolls which do not cultivate a taste for wasp-waists and the trivialities of fashion.

What an amount of time, that precious material of which life is made, do women sacrifice to love of dress! Shopping expeditions in search of the finest texture and the newest shade exhaust body

and bewilder brain. Hours are consumed in matching ribbon, wool, and silk; hours are spent in consultation with the dressmaker, and in the fabrication of the wardrobe. The more personal details of the toilet, the frizzing of hair and the polishing of finger-nails, consume an appalling portion of time. One could solve a problem in Euclid while some women are adjusting hat, crimps, and veil. No one has better set forth the intellectual and spiritual loss which comes through this all-absorbing passion for dress than Mrs. Phelps Ward. "'I spent one hundred hours,' said an educated and cultivated lady recently—and she said it without a blush of shame or a tremor of self-depreciation—'I spent just one hundred hours in embroidering my winter suit. I could not afford to have it done. I took it up from time to time. It took me a hundred hours.' One hundred hours! One could almost learn a language, or make the acquaintance of a science, or apprentice one's self to a business, or nurse a consumptive to the end of her sufferings, or save a soul, in one hundred well-selected hours. One—hundred—hours!"

In the division of labor the care of the clothing comes naturally to woman. We do not undervalue the avocation of the needle, upon which the com-

fort of the family depends. We do urge that there should be discrimination as to sewing which is rational and necessary, and that which is purely frivolous.

Waste of time goes hand in hand with waste of money. Extravagance in displays of dress is a sin common to rich and poor, and is not less pitiful in one than in the other. It is easier to see this folly and madness in the cheap trinkets of the poor girl than in the costly baubles of the rich, but the principle is exactly the same in each. It is wasting on the lower, sensuous gratifications the gifts which might be put to higher uses of mind and spirit. Ruskin says: "There can be no question that all money we spend on the forms of dress at present worn is, so far as any good purpose is concerned, wholly lost." A recent custom-house report gives the entry of laces and precious stones to the value of $25,722,049. This makes no account of the laces and jewels which are entered as personal property and smuggled in, and which would probably raise the amount one half. Ruskin says: "The bills for dresses worn at one party would pay the national debt."

Time and money are nowhere more foolishly wasted than in gratifying the passion for dainty

underclothing. All grades of embroidery, from the cheap and vulgar Hamburg to exquisite Valenciennes, is lavished upon it. All manner of frills and ruffles and tucks are employed. Artistically considered, this show is illegitimate. Underclothing serves only the purposes of warmth and decency. Its ends are purely practical and utilitarian. It is a law of art that ornamentation is for the eye. To ornament the underclothing which regales only the eyes of the laundress is as idle as for a painter to ornament the back of his canvas. It may be likened to Ruskin's "golden ploughshares and bas-reliefs on millstones." If reform were carried in this direction alone, what time might be secured for study, what money might be saved for books and art!

Millions of exquisite birds are sacrificed every year for the adornment of women. "A consignment to a single London dealer, not long ago, consisted of 32,000 dead humming birds, 80,000 aquatic birds, and 800,000 pairs of bird-wings. All of this to adorn ladies' hats, and this is but one firm and a single consignment."

Extravagance and vanity intrude even into the most sacred hours of bereavement and grief. The solemn experiences of life are reduced to mere

AN ANGEL, BY FRA ANGELICO.

Fra Angelico is pre-eminently the artist of pure, devout nature. The angel given here is an illustration of the truth that character expresses itself in the work of our hands. The pose of the figure and the lines of drapery are chaste and true. Omit the halo, the trumpet, and the wings, and the angel of the fifteenth century is a suitable model for the maiden of the nineteenth.

conventionalities by the fashion of mourning garments. The grade of affliction is proclaimed by the texture and depth of the veil and the width of the handkerchief border. At a time when the soul shrinks from vulgar gaze a new and unaccustomed attire attracts attention and makes the wearer conscious of herself. Could there be a more incongruous juxtaposition of words than these—fashionable mourning? The poor widow often takes her last dollar for mourning garments even when her children are crying for bread and shoes. Others envelop themselves in yards of crape, whose poisonous dyes injure the health and whose funereal aspect depresses the spirit.

Conscientious women often excuse extravagance on the plea that it helps the laboring classes. Such a mistake arises from ignorance of the principles of political economy. "Luxurious expenditure is not good for trade—it has no beneficial effect upon the wage fund or the condition of the laborer. All unproductive consumption decreases national capital or tends to prevent its increase."

Benevolent ladies are attempting to revise the lace-making industry in different sections of the Old World. An industry so laborious, so trying to the sight, so dependent on the fluctuations of fash-

ions, does not come under the head of philanthropy.

Diamonds, laces, and passementeries can neither feed nor warm, and in communities like our great cities, where every fifth man is a pauper, and in farming districts, where every one is in need of the higher values of life, the time for unproductive labor has not arrived. There is in the employment of labor for the fabrication of a perishable ball-dress, which can be worn for a few evenings, or in the employment of the seamstress and the laundry-maid for delicate, elaborate, and costly clothing, the kind of temporary aid which Ruskin compares to that of setting people to building houses of snow. It is the waste of labor on things which perish. Ruskin says: "As long as there is cold and nakedness in the land around you, so long there can be no question at all but that splendor of dress is a crime. In due time, when we have nothing better to set people to work at, it may be right to let them make lace and cut jewels; but as long as there are any who have no blankets for their beds and no rags for their bodies, so long it is blanket-making and tailoring we must set people to work at—not lace." If society were constructed

on Christian principles, the "Song of the Shirt" could never have been written.

Costliness of dress is not only contrary to the principles of political economy, but it is contrary to charity in the highest sense. Just as the magnificence of our churches shuts out the poor, so splendor of dress shuts the wearer from the possibility of sympathetic entrance into the life of the destitute. A missionary dressed like a fashion-plate might enter the tenements of New York as an almsgiver, but not as a sympathizer and friend. The Salvation Army permits no woman who wears feathers, lace, and finery to be an officer or sit on the platform. Its influence among "the other half" would cease the moment the Army indulged in worldly pomp and vanity.

The use of money is one of the problems of the day. It is the example of the affluent classes which tempts the poor to displays of dress and to foolish expenditure. Christian women ought to set an example of simplicity in dress which should have a wholesome effect on the middle classes and the wage-earner. When we think of the homes of poverty, the struggles for a pittance to keep soul and body together, the children who are crying for bread, the ignorant waiting to be taught, how piti-

ful it seems to lavish time and money on our own personal adornment!

Must we then dispense with everything which "doth neither hide nor heat, seeing it doth adorn?" The exquisite care with which the Creator has clothed this world is a divine benediction on the beautiful. We owe a duty to ourselves, our neighbors, and our Creator not to make ourselves unseemly or ugly. The difficulty is that, having lost simplicity and purity of heart, we entertain mistaken ideals of beauty. Another difficulty is that we are unable to separate between beauty for the sake of beauty, and beauty for the sake of vanity. The woman who is shopping for jewels and lace is in an entirely different mood from the woman who is buying a painting or statue for her home. In one the love of the beautiful is hopelessly mixed with and debased by personal vanity; in the other the love of beauty for beauty's sake is triumphant. When a woman ceases to deny, in dress, the ideal of the Creator, when she is so pure in heart that she recognizes the beautiful, when she arrays herself in beauty not to attract but to inspire, dress will be a refining and educating influence, just as a beautiful picture or statue is an elevating and refining influence.

The highest life is the intellectual and spiritual. Magnificence in dress is certainly sensual. As the power of the intellect and the spirit grows, the heart is weaned from these displays and set on the things which are invisible. It is impossible to imagine Elizabeth Fry, Elizabeth Barrett Browning, or Harriet Beecher Stowe decked in the gay trappings of fashion. Isaiah, Calvin, Knox, Finney, all the mighty in spirit, have opposed themselves to displays of dress. If we are not yet ready for the highest, which is the life of intellect and spirit, we must fight every impulse which tends towards a sensuous vanity in dress. Adornment should be of the character which is refining and elegant. This is the work of art in the domain of dress. Art is simple, practical, and elevating. It leads us away from the sensual and into the chaste and beautiful. In this new era which is dawning for woman she is called to put away the childish things of the senses, and to consecrate her being to the things which remain when the fashions of this world have passed away.

APPENDIX TO SECOND EDITION.

THE BUSINESS SUIT.

A FEW earnest students of the situation are laboring to solve the perplexing question, What shall be the business suit for women?

By "business suit" is meant a costume adapted to woman, as man's prevailing style of dress is adapted to his need; one which can be worn during the engagements and recreations of every-day life, in sunshine and storm, allowing the greatest possible freedom and comfort; one which will commend itself because of its fitness, not ignoring gentility.

The signs of the times indicate that this will likely be a distinctively short costume, not simply an abbreviated frock. The accompanying cuts represent the suit in which Mrs. Bertha Morris Smith appeared before the National Convention of the Woman's Christian Temperance Union held at Denver. Mrs. Smith, the designer, claims that a short skirt,

whose length reveals the shapeliness of the leg (properly clothed) is more artistic, hence less objectionable, than that which approaches the boot-top, bringing the feet into more prominent notice under circumstances not the most favorable.

Such a costume should be made of serviceable material. The fabrics that drape beautifully because of their softness must give place to more substantial web, even for summer wear.

The suit illustrated is made of navy-blue serge. The skirt is bell-shaped, but it can be cut with front, side, and back gores. A reversed box-plait in the front admits greater freedom while sitting. An em-

broidered arrow-head, ten or twelve inches below the waist, retains the plait in place. The skirt in length covers the garter line, entirely concealing a pair of Turkish trousers of medium width, made of the same material, and gathered below the knee by a rubber band. A pair of long gaiters button down the entire length at the side, and are strapped under the instep. The most desirable effect is produced when these gaiters also are made of the suit material. Those in the illustrations are of Jersey cloth. An under-waist of drilling or percoline extending well over the hips, cut low in the neck and with large arm-sizes, can be sufficiently fitted to the form to support the ordinary

bust, thus taking the place of the corset. The skirt may be sewed permanently to this waist at the waist line, or it may button on. The vent in the skirt is at the front plait. A second row of buttons on the waist, an inch or more below the waist line, supports the trousers. The vest and jacket are permanently attached to each other. The vest may be made with a silesia back of its own; or small rubber straps an inch or two in length, sewed at intervals along the under-arm seam, may button or hook the jacket to the vest. Either of these plans readily admits a lighter-weight vest, or a cooler waist for summer wear, made of silk, linen, or muslin, over which the jacket may be worn when needed. The vest may be finished with the high-neck band, as indicated, or the shawl collar, admitting equally well the laundered shirt-front and the more pliable "neckerchief." A soft felt hat completes the suit, which was pronounced most becoming to its wearer.

The success of this costume requires harmony of color throughout, the covering for the legs forming an indispensable part. Light-weight cloth may be used, which is readily cut into the shapely gaiter; this, supplemented by a short-sleeved, knee-length gauze union suit, with thin hose and low shoes, completes a summer outfit. The ankle-length union

suit can be worn with socks, thus avoiding supporters, unless the thiner gaiter fabric requires that these be held in place under the trousers. For winter, heavier material, long-sleeved wool union suits, extending from the neck to the ankles, equestrian tights, and long woolen hose will afford abundant protection. The skirt and trousers may be lined if additional warmth is necessary. A short coat will suffice for midwinter out-door wear, while the "mackintosh," reaching the ankles, will give protection in stormy weather.

This suit made its appearance before the Women's Christian Temperance Union Convention upon a day notably fraught with discomfort by wind, rain, snow, mud, and slush. Women intent upon a great reform wended their way to the church, managing with one hand an unruly umbrella, while the other held tenaciously to pamphlets and documents, at the same time clutching vainly at habiliments that seemed mockingly out of place. After the noon conference in the interest of correct dress, which was of significant importance, Mrs. Smith was called to the rostrum during the afternoon session of the general convention. She prefaced her remarks by referring to the possible difference of opinion regarding the length

of the skirt. Immediately a delegate from Alabama, with full appreciation of the situation, ready wit, and sonorous voice, interrupted with the statement: "Madam President, I have seen at least seventy-five women, to-day, on the streets of Denver, holding their skirts fully that high, without any of its evenness." A round of ringing applause showed the pertinence of the remark.

In developing this business suit, pockets have not been forgotten. Two small ones are in the vest, two in the outside of the jacket, while a convenient breast-pocket can be added. One or two more liberal ones will find place in the skirt.

If such a suit finally prevail, the ingenuity of manufacturers will soon overcome the difficulty which has been intimated of too great warmth. The long gaiters seem desirable because they afford covering without being hose, which custom has established as "nether" garments; nor are they "pants," long ago pre-empted by men. This protection of the legs need not prove more uncomfortable in warm weather than the starched skirts and frocks which have been worn with so much fortitude in periods of the past. Men endure cloth in summer and do not seem to suffer.

The changed circumstances of women in these

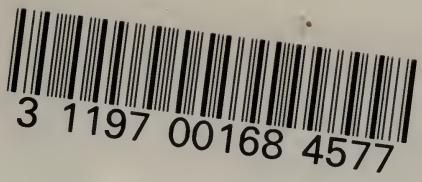
days demand a costume adapted to various needs. While the flowing robe and floor-length frock will doubtless continue their supremacy in the drawing-room, common-sense declares that these are not fitted for the service of life. Woman has attempted to pass from the helpless, protected existence which characterized the harem and days of chivalry into the new rôle of activity, philanthropy, and wage-earning independence, bearing upon her person the inconvenience and treachery of inappropriate dress. This incongruity, perhaps more than any other one cause, has fixed upon her the charge of incompetency because of her *sex*.

When standards of modesty are established in harmony with God's wonderful conception of the human body, the prejudice that now exists in the minds of a portion of womankind against such an innovation as liberated legs will vanish.

What Civilization and the Gospel have wrought in the past for the veiled sisters of the Orient may be accomplished for the marvelously blest yet only half-released sisters of the Occident. The code of morals that conceals the face of the one is no falser in theory than arbitrary social demands which cripple the other with garments setting at naught

the wisdom of the Creator in adapting the body to the needs of an immortal soul.

It now remains for woman to harmonize her ideas regarding "fitting attire" with the privileges, purposes, and demands of her life. A vast brotherhood of sensible men stand ready to bid her God-speed WILL SHE DO IT?



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